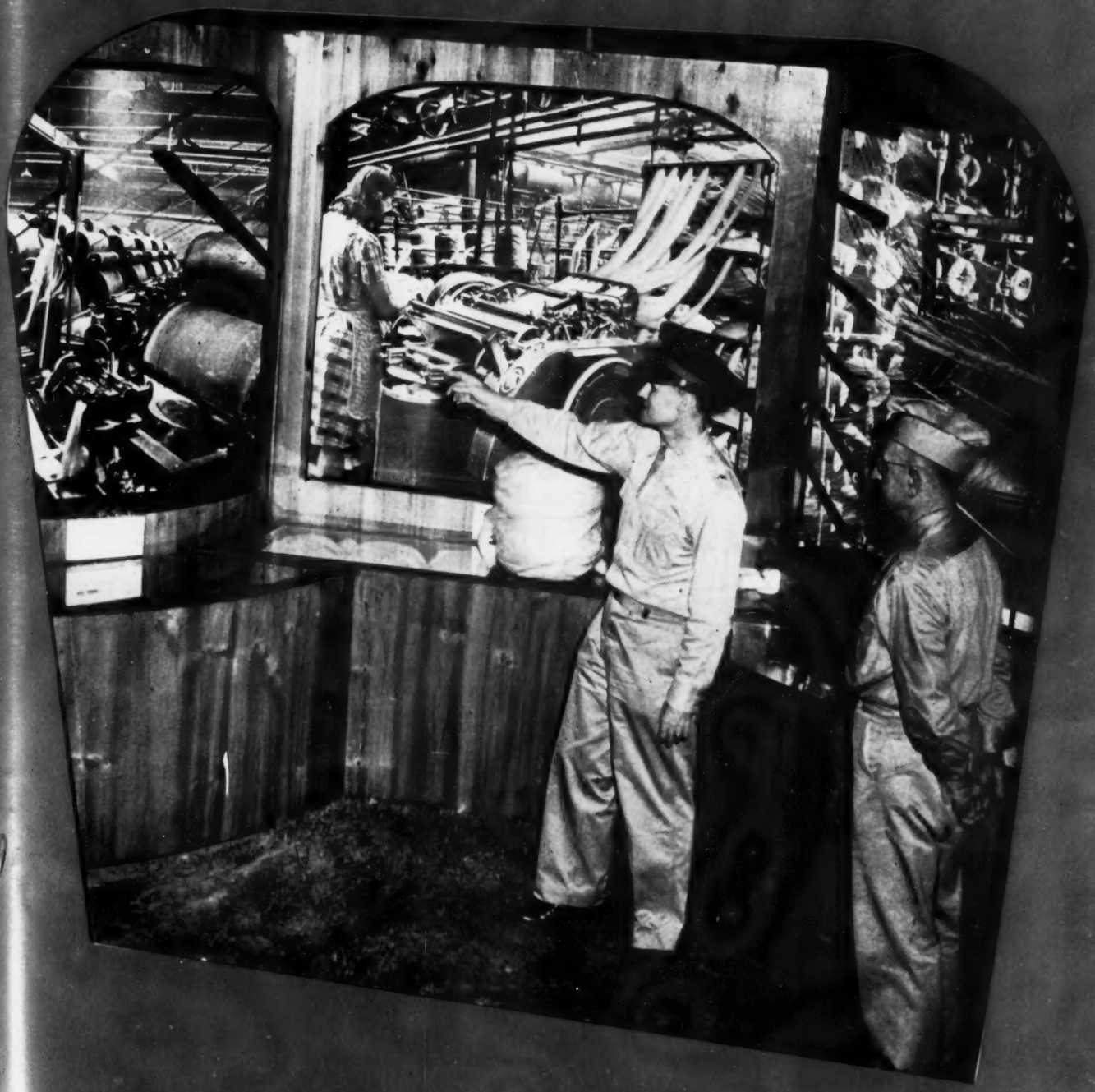
Textile World

AUGUST, 1942

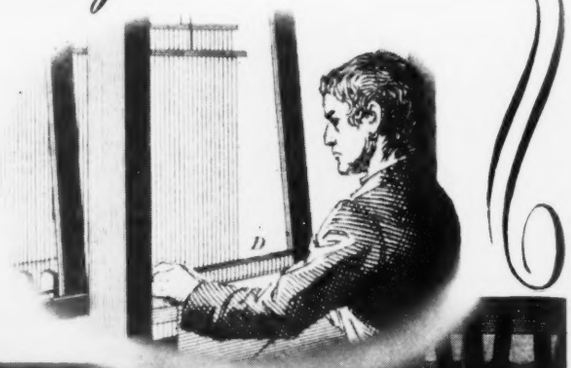


ARMY SHOW TAKES TO THE ROAD

SEE FEATURE ARTICLE

Weavers Didn't Know Their Own Strength!

In hand-weaving, there could be no control over the force used by the weaver in striking the lay against the cloth. As the weaver's force varied from stroke to stroke, so did the count and thickness of the cloth produced. Uniformity was unknown.



"Power Looms"

This condition changed when the Reverend Dr. Edmund Cartwright invented the power loom in 1787. It took a minister, who had never even seen a loom in operation, to give the world an entirely new concept of weaving possibilities. As each operation became more mechanical and *continuous*, variables of the hand loom operation were decreased.

For the first time, every stroke of the lay was made with equal force. Cloth production was speeded up, and fabric of uniform count and thickness was obtained. Here is yet another illustration of *continuous* movement increasing the efficiency and quality of textile manufacture.

Just as the power loom eliminated variations in weaving, so the "Continuous Process," the contribution of Industrial Rayon engineers to textile progress, eliminates variations in rayon yarn—giving a new concept of rayon uniformity.

In one *continuous* thread, SPUN-LO rayon yarn is spun, washed, bleached, treated, dried and twisted. Result—a yarn, uniform in strength, lustre and denier, virtually free from knots and broken filaments.

To weavers, these qualities mean increased operating efficiency—more important today than ever before.

"CONTINUOUS PROCESS" Spun-lo Rayon
Reg. U. S. Pat. Off.

INDUSTRIAL RAYON CORPORATION • Cleveland, Ohio—New York Office, 500 Fifth Avenue

TEXTILE WORLD, Vol. 92, No. 8, August, 1942. Published monthly by McGRAW-HILL PUBLISHING CO., INC., (Bragdon, Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. **Editorial and Executive Offices, 330 West 42nd Street, New York, N. Y.** Allow at least ten days for change of address. All communications about subscriptions should be addressed to the Director of Circulation, Textile World, 330 West 42nd Street, New York, N. Y.
Subscriptions: United States and Possessions, and Latin American Republics, $1.50 a year, $2.00 for two years, $3.00 for three years, Canada, $2.00 a year, $3.00 for two years, $4.00 for three years. Great Britain and British Possessions 12 shillings for one year, 27 shillings for three years. All other Countries $2.00 for one year, $4.50 for three years. Entered as second-class matter August 25, 1936, at Post Office, Albany, N. Y. under the act of March 3, 1879. Printed in U. S. A. Twenty-five cents per copy.

TECHNOLOGY DEPT.
PUBLIC LIBRARY
AUG 20 1942

Production of Brass Shuttle Eyes Drastically Curtailed for the Duration

This is part of the Wartime Program

Brass is an Absolute Essential in the Manufacture of both Armament and Amunition

Cast Iron Shuttle Eyes

Are in Use in Weaving Nearly Every Class of Fabric from the Finest Rayons to Heavy Duck— And Have Been for Many Years

You Should be Trying Out These Cast Iron Eyes

Draper Service Men will Help Pick Out the Eye that is Right for Your Weave

We Are Trying
To Make Necessary Wartime Substitutions
With the Least Disturbance to Present Mill Practice

DRAPER CORPORATION

Hopedale Massachusetts

Atlanta Georgia

Spartanburg S C

If it will Help YOU
to help WIN THE WAR,
Automatic Filling Bobbin Winders
for rewound filling offer you
Better loom bobbins • Greater yarn yardage
Increased weave room efficiency and quality
Reduced filling waste
Direct savings

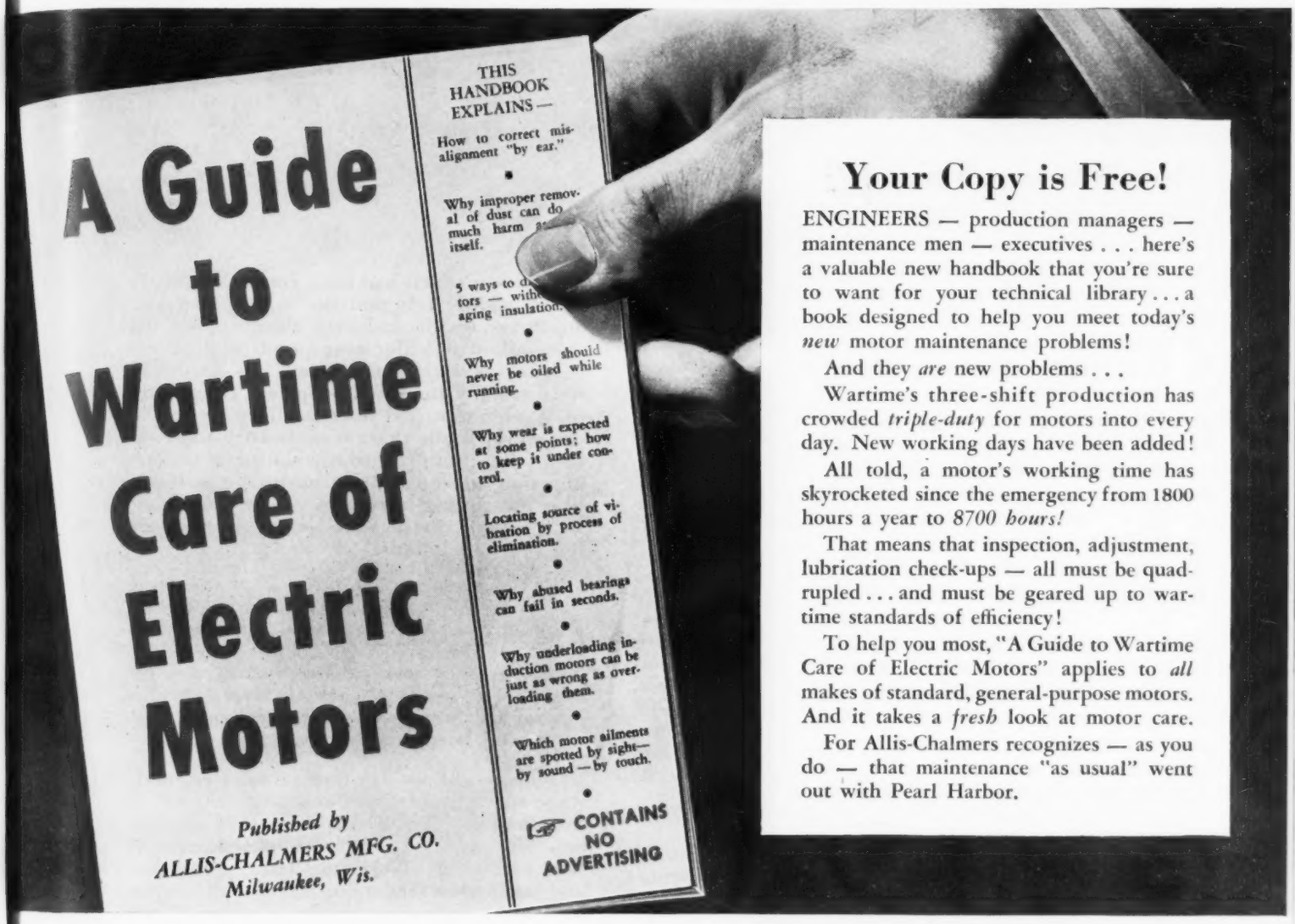
WHITIN MACHINE WORKS

WHITINSVILLE, MASS., U. S. A.

CHARLOTTE, N. C. ATLANTA, GA.

Announcing

A VITAL NEW AID TO VICTORY PRODUCTION . . .


A Guide to Wartime Care of Electric Motors
Published by
ALLIS-CHALMERS MFG. CO.
Milwaukee, Wis.
THIS HANDBOOK EXPLAINS —
How to correct misalignment "by ear."
Why improper removal of dust can do much harm
5 ways to
tors — with
aging insulation.
Why motors should never be oiled while running.
Why wear is expected at some points; how to keep it under control.
Locating source of vibration by process of elimination.
Why abused bearings can fail in seconds.
Why underloading induction motors can be just as wrong as overloading them.
Which motor ailments are spotted by sight— by sound — by touch.
CONTAINS NO ADVERTISING

Your Copy is Free!

ENGINEERS — production managers — maintenance men — executives . . . here's a valuable new handbook that you're sure to want for your technical library . . . a book designed to help you meet today's *new* motor maintenance problems!

And they *are* new problems . . .

Wartime's three-shift production has crowded *triple-duty* for motors into every day. New working days have been added!

All told, a motor's working time has skyrocketed since the emergency from 1800 hours a year to *8700 hours!*

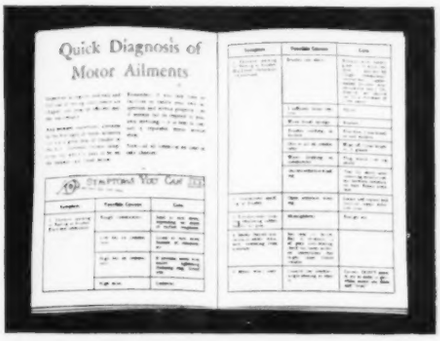
That means that inspection, adjustment, lubrication check-ups — all must be quadrupled . . . and must be geared up to wartime standards of efficiency!

To help you most, "A Guide to Wartime Care of Electric Motors" applies to *all* makes of standard, general-purpose motors. And it takes a *fresh* look at motor care.

For Allis-Chalmers recognizes — as you do — that maintenance "as usual" went out with Pearl Harbor.

Send for this Valuable new Handbook today

COMPLETELY ILLUSTRATED — Making principles of motor care crystal clear. Of particular value for training new men.



HANDY REFERENCE — Helping you catch motor troubles at early stage. Tear out order form and send for *your* free copy!

ALLIS-CHALMERS MFG. CO.
Milwaukee, Wisconsin

Gentlemen:

Yes, I would like to receive *free of charge* "A Guide to Wartime Care of Electric Motors".

(Name)

(Title)

(Company)

(Street Address)

(City and State)

A 1555-8

ALLIS-CHALMERS
MILWAUKEE·WISCONSIN

WE WORK FOR VICTORY WE PLAN FOR PEACE

Conventions

Comments by
Henry G. Lord

The other day Alex West dropped in to see me, looking just the same as he did twenty-five years ago. We reminisced about the old-time autumn conventions. I don't think Alex ever missed one.

Forty or fifty years ago the autumn semi-annual conventions of the National Cotton Manufacturers Association, then called the New England Cotton Manufacturers Association, were always held in some summer resort hotel after the regular guest season had closed.

I have very pleasant memories of these convention outings at the Chalfonte at Atlantic City; the Champlain at Bluff Point; at Saratoga Springs; at Bretton Woods in the White Mountains; the Wentworth at Portsmouth; the Equinox at Manchester, Vermont; the Aspinwall at Lenox in the Berkshires, and the Griswold in New London. New London was a special favorite because of its convenience, both to New York and Boston, as well as Providence, Worcester and Springfield, and the last autumn conventions were held there.

Men brought their golf clubs or tennis rackets and very often their wives. This gathering of the clans for a three days' outing led to acquaintances and friendships that have endured for many, many years—friendships that would never have been made in the ordinary contacts of business and formal conventions. The business sessions were really the excuse for the social get-together.

The autumn semi-annual conventions were given up when the depression came. Although it was the right thing to do under the circumstances, I was sorry to have them dropped.

It was in 1903 that the American Cotton Manufacurers Association took over the membership of the Southern Yarn Spinners Association which had been formed in 1897. It was rightly felt that the rapidly growing Southern textile industry should have an association of wider scope and broader relationships and a new name. Its meetings were usually held in the spring, frequently in Washington and later in different southern cities. While there was always a pleasant social side, natural at any southern gathering, they were definitely business meetings, like the spring meetings of the National. Occasionally there were joint meetings of the two associations.

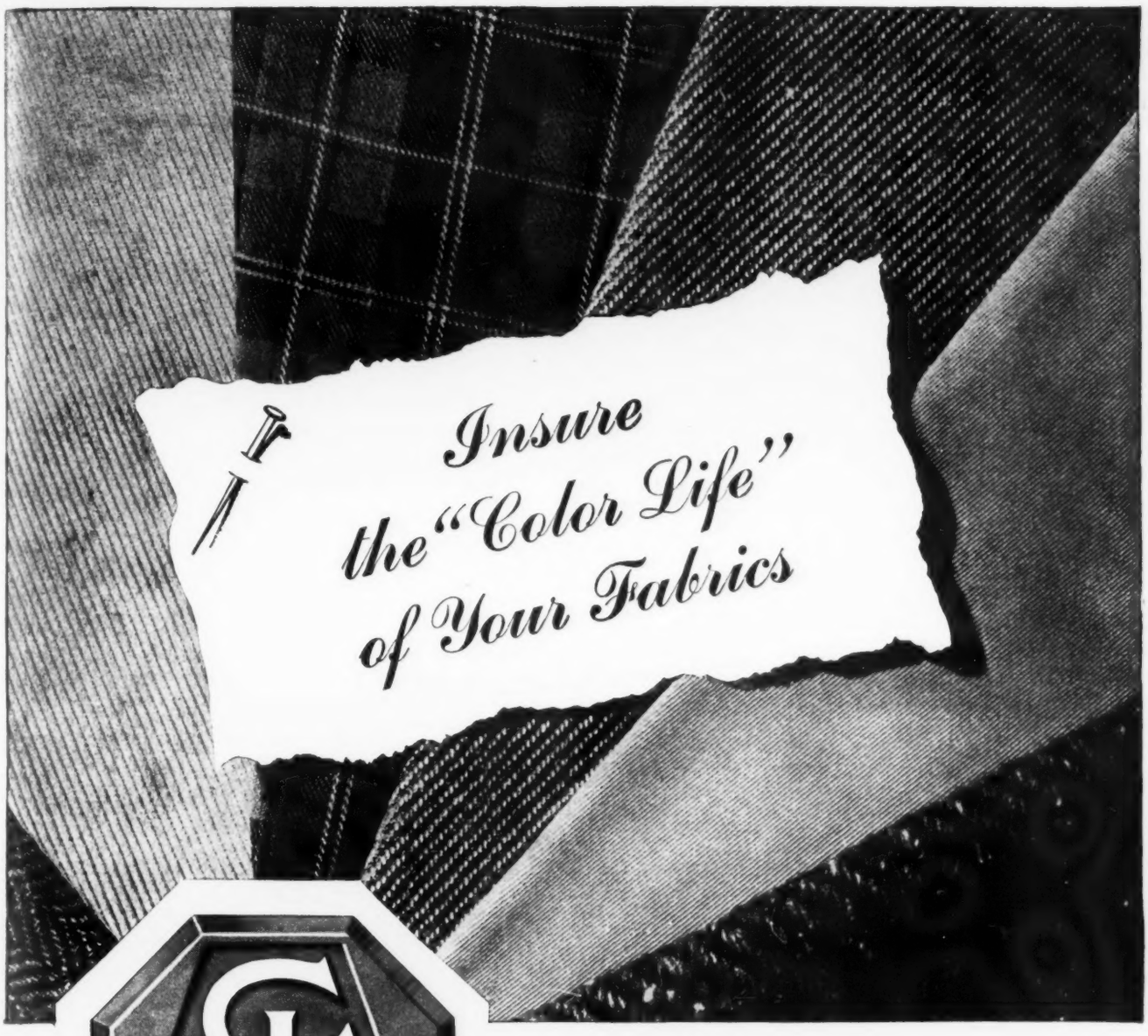
I remember one of these joint meetings was held in Memphis, Tenn., in 1915. The old firm of Lord & Nagle was then the publisher of Textile World, and with some trepidation we engaged two special cars on the train from New York to Memphis and invited a group of manufacturers and machinery men to join our party.

When word got out that we were running these special cars, there was such demand to join the party that we had to put on another car. We had all the officers of the association and most of the northern delegation, and under the leadership of Albert Greene Duncan, who was president that year, we developed a chorus which received great applause in Memphis.

The Memphis Cotton Exchange, of which Joe Newberger was president, was host to both associations. Two splendid business sessions were held and then we were swamped with southern hospitality, including an excursion on the Mississippi. It was a grand occasion! The morning after leaving, on the way home, we stopped off at Chattanooga and went out to Lookout Mountain, but I have never had a very clear recollection of that battlefield.

I wonder if any one reading this page remembers that Memphis convention.

HENRY G. LORD, *founder of Textile World and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*



Today, not only new cloth construction but new fibres are adding to the complexity of some of the new textile fabrics . . . these new designs must give the best and longest possible wear . . . their life must not be shortened through color failure.

Added responsibility is placed on the dyer because the problems of correct color selection are multiplied many times . . . and unfortunately, there are not as yet, any general rules that can be applied to the dyeing of these new fabrics and fibres—each fabric becomes a problem in itself and under present circumstances—there is no room for guesswork.

Why not let us advise you on the best and most economical dyestuffs to use on these new fabrics and fibres which will uphold the standards of your own particular cloth. Just write, wire or phone for full particulars.

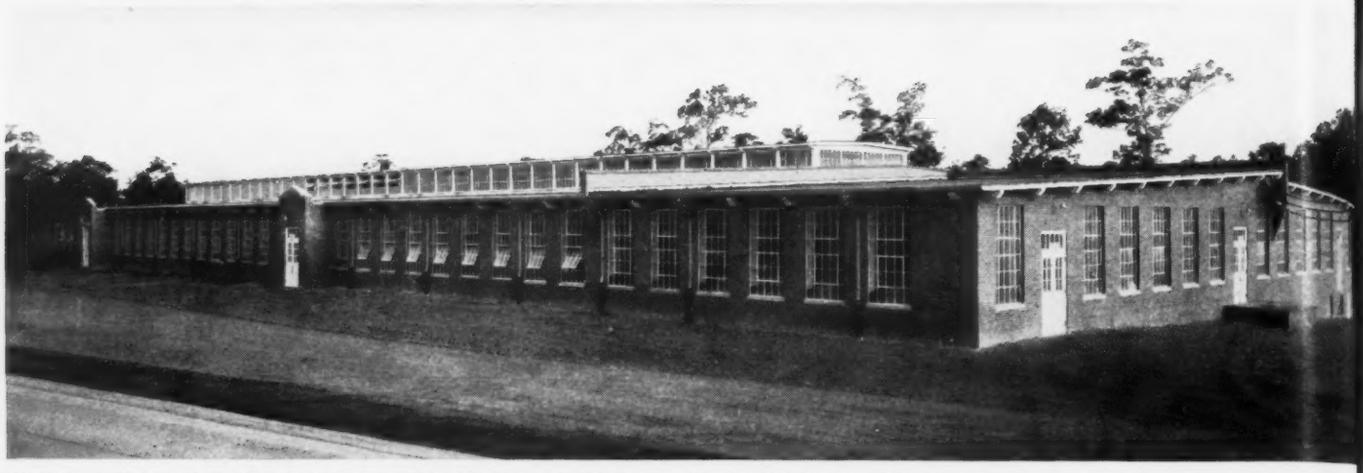
CIBA Company Incorporated

• DYESTUFFS • CHEMICALS • INTERMEDIATES •

Vat Dyes of • THE DOW CHEMICAL COMPANY

P. O. BOX 25 — STATION C.
GREENWICH & MORTON STS.
NEW YORK

BOSTON · CHICAGO · MONTREAL · CHARLOTTE
PROVIDENCE · SAN FRANCISCO · PHILADELPHIA

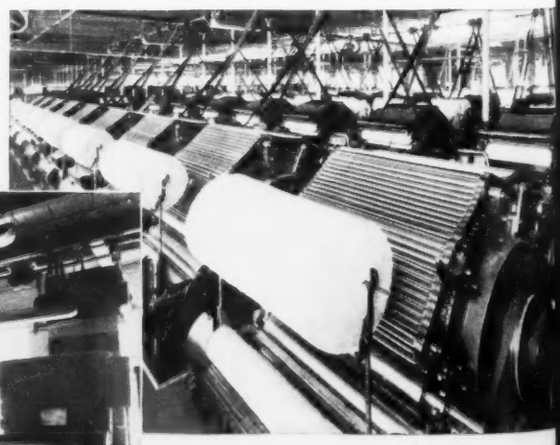


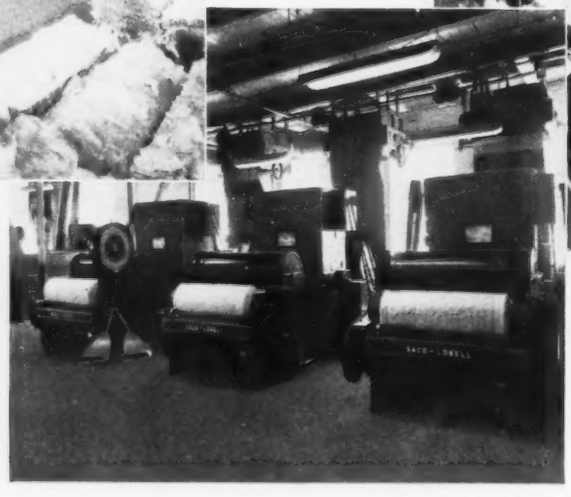
QUAKER MEADOWS MILLS, INC., HILDEBRAN, NORTH CAROLINA . . . MR. BASCOM BLACKWELDER, *PRES.*

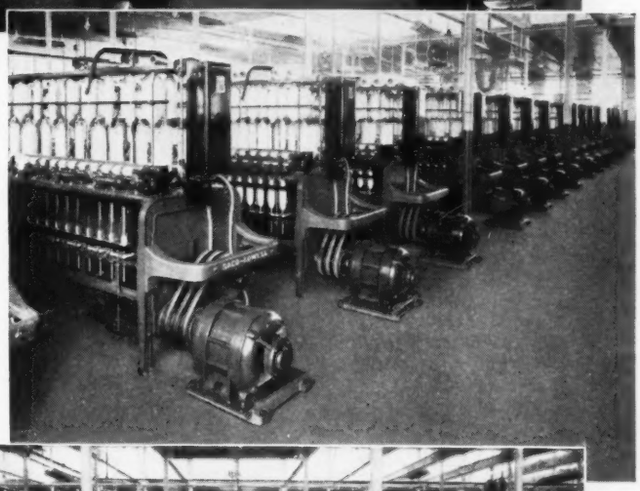
Quaker Meadows

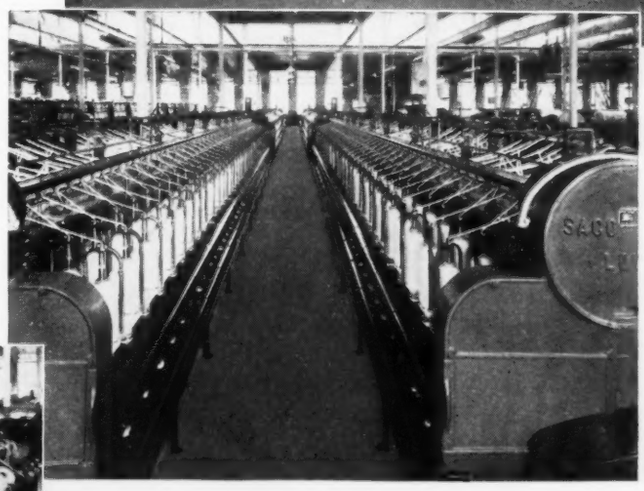
THE NEWEST COMPLETE SPINNING MILL IN THE UNITED STATES . . .

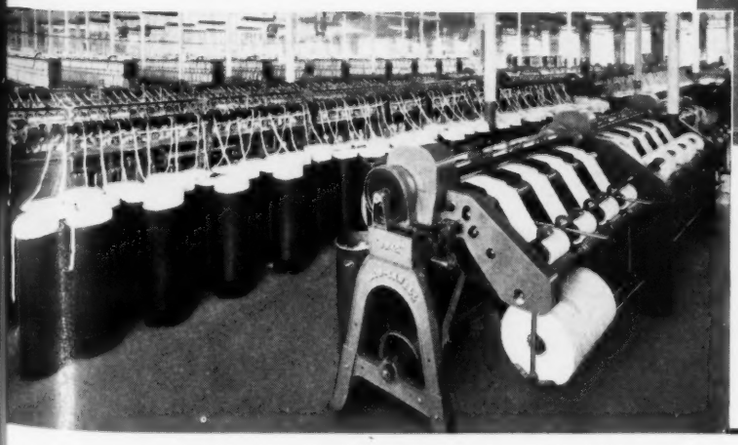
will establish higher standards of production and quality for single and ply yarns in coarse counts.











The production equipment,* all by Saco-Lowell, combines the experience of the mill's practical executives and the Saco-Lowell engineering staff . . . resulting in an unusually effective routine for efficient coarse yarn manufacture.

From opening through twisting every square foot of floor space has been utilized to achieve the ideal in continuity of production and coordination between successive steps in processing. Emphasis has been given to the reduction of waste, spoilage and useless transportation of stock . . . and to the attainment of low maintenance and operating costs.

Here's an advance showing of the mill of tomorrow . . . a mill to be watched for a demonstration of coarse yarn production using custom-built specialized equipment.

We predict a steady, continuous growth for Quaker Meadows, and extend our congratulations to the management for their courage and foresight in the timely completion of this fine plant.

- #F7 Cleaning and Blending Feeders
- Steel Feed Tables
- #11 Dust and Waste Extractors
- One Process Pickers, with Blending Reserve and Automatic Controlled Feed
- ★ Revolving Flat Cards, with Continuous Strippers
- Model 37 Lap Winders
- Controlled Draft Drawing
- Roving Frames
- Better Draft Spinning
- Model 4 High Duty Heavy Twisters

SACO-LOWELL SHOPS

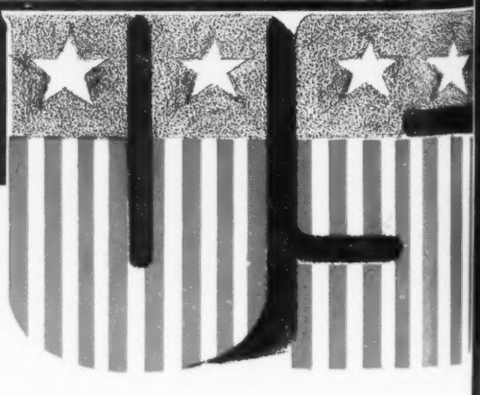
60 Batterymarch Street, Boston, Massachusetts

Charlotte, N. C. *Greenville, S. C.* *Atlanta, Ga.*

Controlled HEAT gives birth

These are Some of the **RING TRAVELERS** *we produce*—"a traveler for every fibre." Upon request, we will be glad to make a study of spinning or twisting operations in your plant, bringing along a stroboscope, if you desire. This may cut your traveler costs, speed your output. Write—or WIRE—today.

TEXTILE NEEDS OF U.S. SERVED BY



TREATMENT

to mighty guns *and to longer service life in* RING TRAVELERS

The controlled heat treatment of the steel that goes into big guns and tanks . . . and into tiny "U. S." Ring travelers . . . is equally complete!

Its object is the same—to make better, stronger metal give better service. You, as a textile man whose job is to produce some 350 lbs. of textile products per soldier, should be interested in the heat-treatment of "U. S." Ring Travelers. For on their performance depends your OUTPUT. With bronze and steel growing scarcer daily, this is of vital importance.

Properly controlled heat-treatment of properly selected metal is one reason why "U. S." Ring Travelers stand up in service.

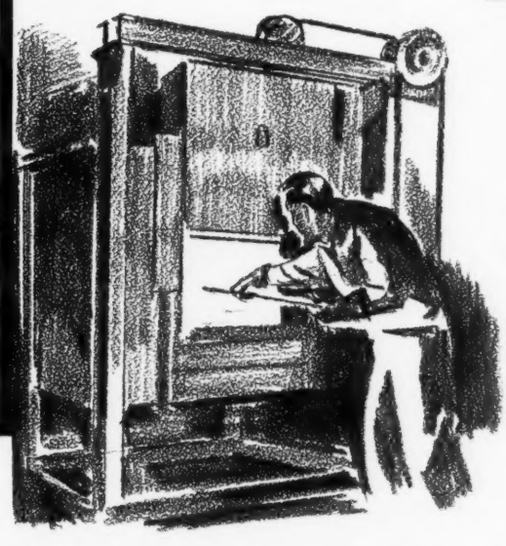
In our enlarged plant here in Providence, we use the only gas-fired carburizing ovens used in the ring-traveler industry, designed and built to our specifications. This type of oven is easiest to control accurately.

On the basis of our experience, we have improved these ovens constantly through the years, further to increase their accuracy.

Our tempering ovens, some electric, some gas-fired, are the best obtainable.

All our ovens are electrically controlled through pyrometers, with temperatures recorded through potentiometers for frequent checkup.

In other words — CONTROLLED HEAT TREATMENT gives you better tempered, longer lasting "U. S." Ring Travelers. It is simply one of the MANY reasons why experienced textile spinners, twisters and throwsters think "U. S." first when it comes to Travelers.



THE NE-BOW

Here is another example of "U. S." development. The NE-BOW has a pronounced bend inward at the top of the horn. This prevents ends flying out, provides ample head room for threading and prevents binding on the ring, because it permits full play of the Traveler even at highest speeds.

SOLD UNDER THESE TRADE NAMES

BOWEN ROUND POINT TRAVELERS
BOWEN SQUARE POINT TRAVELERS
BOWEN IMPROVED VERTICAL BRONZE
BOWEN PATENTED BEVEL EDGE
BOWEN FLAT OVAL AND ROUND WIRE TRAVELERS
BOWEN PATENTED NE-BOW VERTICAL
BOWEN PATENTED VERTICAL OFFSET

U. S. RING TRAVELER CO.

PROVIDENCE, RHODE ISLAND

AMOS M. BOWEN, Pres. and Treas.

Sales Representatives:

NEW ENGLAND
Carl W. Smith
Herbert J. Smith
both c/o U. S. Ring Traveler Co.
P. O. Box 1187, Providence, R.I.

SOUTHERN
William P. Vaughan — P. O. Box 792 Greenville, S. C.
Oliver B. Land — P. O. Box 158 Athens, Georgia
Torrence L. Maynard — P. O. Box 456 Belmont, N. C.
William H. Rose — P. O. Box 792 Greenville, S. C.

MID ATLANTIC
M. Lee Bolton, P. O. Box 7234, Philadelphia, Pa.

RING TRAVELERS

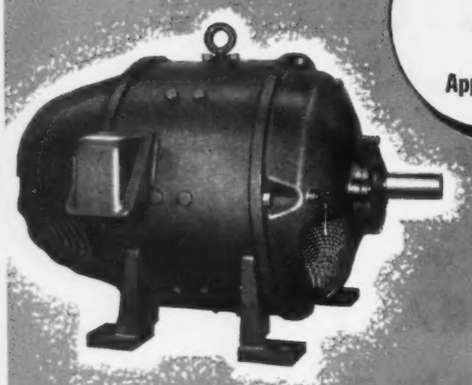
"The Travelers that KEEP GOING!"..

These 2 Words MAKE MOTOR-DRIVE More than POWER

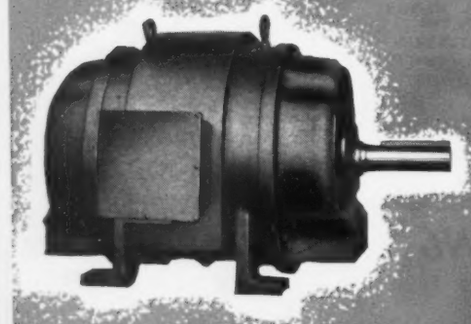
Motor-drive provides within itself a means of:

SPEED CONTROL — TANDEM OPERATION — REVERSING — CONTROLLED ACCELERATION
BRAKING — TENSION CONTROL — REMOTE CONTROL — SAFETY
SLOW SPEEDS FOR INCHING, THREADING, INSPECTION

Applying them to boost production and improve quality is APPLICATION ENGINEERING. That's our business.



Type T Heavy-duty Reliance Motor for direct current with ball bearings.



Splash-proof Type AA Squirrel-cage A-c. Induction Motor with ball bearings.

LIKE MOST RELIANCE MOTORS, this one is more than the name plate says. It was sold *to do a job*—to go beyond providing power. It will take a definite part in a production process by performing functions such as:

Reliance "selling" is "engineering." It is cooperation in answering the question, "What can we get the motor to do besides supply power?" When you have plans afoot requiring new machines or processes, invite a Reliance man to sit in. He can help you get the most from the production aids which are inherent in motor-drive.

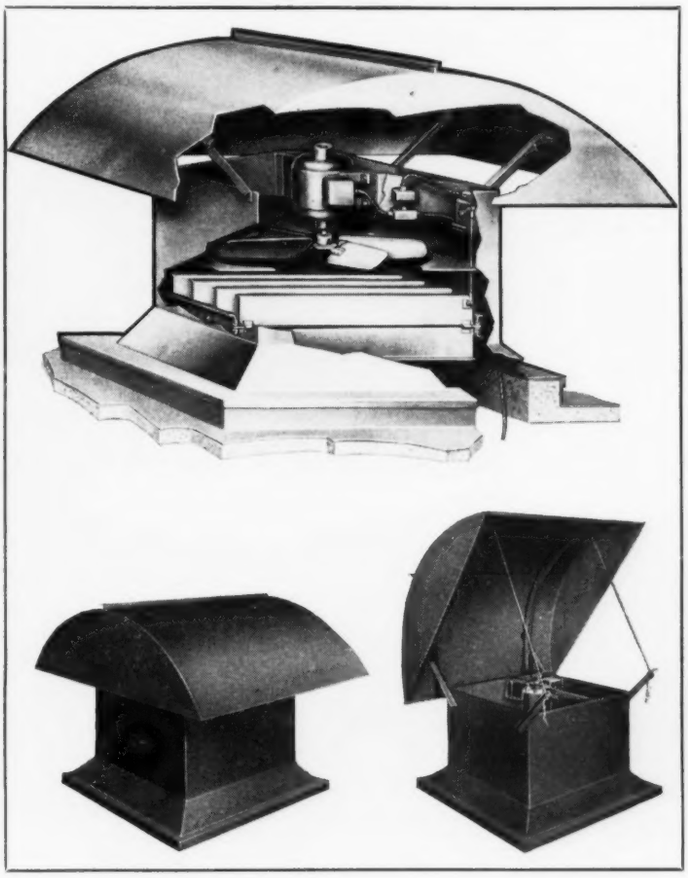
RELIANCE ELECTRIC & ENGINEERING COMPANY
1088 IVANHOE ROAD • • • • CLEVELAND, OHIO

BIRMINGHAM • BOSTON • BUFFALO • CHICAGO • CINCINNATI • DETROIT • GREENVILLE, S.C.
HOUSTON, TEX. • LOS ANGELES • MINNEAPOLIS • NEW YORK • PHILADELPHIA • PITTSBURGH
PORTLAND, ORE. • ST. LOUIS • SAN FRANCISCO • SYRACUSE, N. Y., AND OTHER PRINCIPAL CITIES

RELIANCE A-C D-C MOTORS

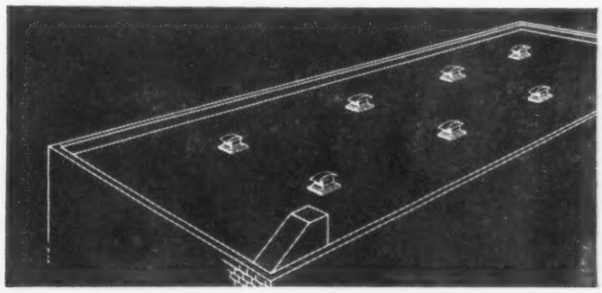
Carrier War Plant Ventilators

Especially Suited to Textile Mills



TO MAINTAIN maximum production, textile mill workers need air free from excessive heat or humidity. Tremendous quantities of outdoor air are needed in warm weather for ventilation to prevent indoor temperature from soaring. In Winter weather, air for ventilation requires tempering to prevent drafts and cold spots.

Carrier War Plant Ventilators installed in roof replace hot, humid air in Summer—temper ventilating air in Winter. They are available in three types to provide uniformly distributed air for correct ventilation in buildings not usually humidified such as dye house, store house, raw material storage room, boiler house, and machine shop.



Installed in roof, Carrier War Plant Ventilators need no floor space.

1. CARRIER EXHAUST VENTILATORS shown above, remove the hot humid air, exhausting it at the roof.

2. CARRIER SUPPLY VENTILATORS replace the excessively hot air with relatively cooler air from outdoors, drawing the air in at the roof and supplying it with uniform circulation to the working areas.

3. CARRIER TEMPERING VENTILATORS warm and deliver air, drawing the air in at the roof and supplying it with uniform circulation to the working areas, thereby providing the needed ventilation with tempered air to prevent drafts and cold spots during cold weather.

FEATURES: No protection housing or elaborate roof supports needed. Built to withstand weather. Light weight. Designed to become a permanent part of the building. Constructed to keep out rain and snow. No light transmission or reflection in blackouts.

The Navy "E", one of the U. S. Navy's most coveted honors, was awarded to Carrier Corporation for excellence in war production.

Mail coupon for complete information. Learn how Carrier War Plant Ventilators can be used to advantage in your mill.

CARRIER CORPORATION, Syracuse, New York Desk H44

Please send literature on Carrier War Plant Ventilators.

Name.....

Company.....

Address.....

City.....

4-PLY SERVICE GETS RESULTS!

...Tufton, a special rayon fiber developed for floor coverings

WHEN RUG MANUFACTURERS first told us what they required of a rayon fiber for use in floor coverings, it was obvious that no suitable rayon staple was then available. That might have been the end of the story, if it weren't for our policy of FOUR-PLY SERVICE.

Instead of saying "no," and letting it go at that, our fiber technicians tackled the problem with a vengeance. First, they determined just what properties were needed—how much resilience, wearability, soil resistance, strength, and ability to cover. Then they set about to develop a fiber with these qualities. Tufton was the result. You can judge its success by the fact that some of America's leading floor covering manufacturers are already using this special fiber with outstanding results.

This is a typical example of the way our FOUR-PLY SERVICE gets results. Whenever you have a problem involving rayon, bring it to rayon headquarters—to American Viscose Corporation. Our aim is to help you in every way we possibly can.

FOUR-PLY SERVICE

1 **FIBER RESEARCH**—Helps you get the right yarns.

2 **FABRIC DEVELOPMENT**—Helps you design new fabrics.

3 **MILL TECHNIQUE**—Helps solve mill problems.

4 **SALES ASSISTANCE**—Helps sell finished products.

AMERICAN VISCOSE CORPORATION

Producer of CROWN *Rayon Yarns and Staple Fibers*

Sales Offices: New York, N. Y.; Charlotte, N. C.; Providence, R. I.; Philadelphia, Pa.

Plants: Marcus Hook, Pa.; Roanoke, Va.; Parkersburg, W. Va.; Lewistown, Pa.; Meadville, Pa.; Nitro, W. Va.; Front Royal, Va.

CROWN TESTED AND APPROVED RAYON FABRIC

Copr. 1942—American Viscose Corp.

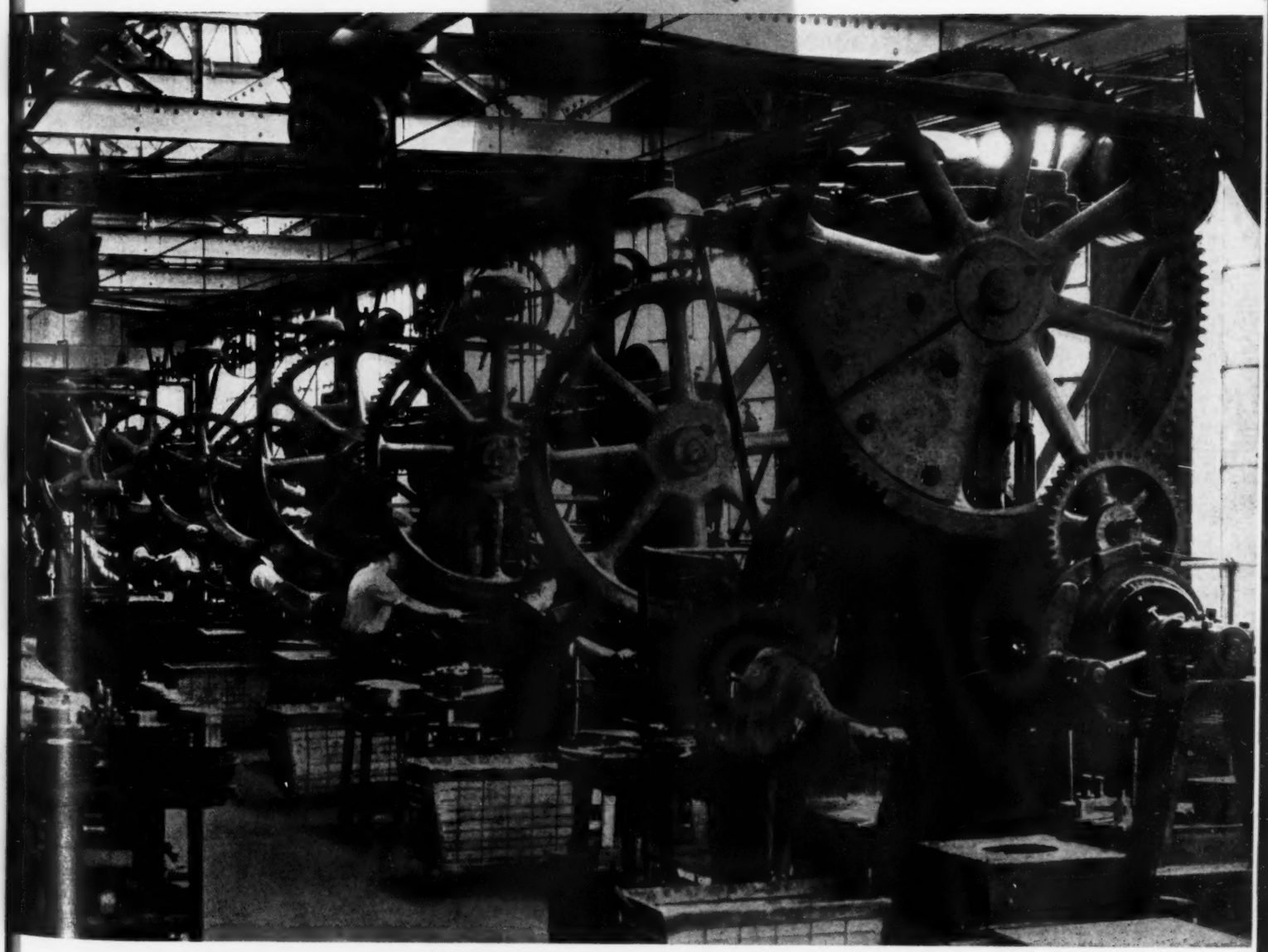
NOW—AMERICAN BLOWER STEEL UNIT HEATERS

Built for War Needs

1. **Essential industries**
2. **Army, Navy, Maritime Commission and Coast Guard**

American Blower Steel Unit Heaters are now available for the above classifications under WPB Order L-107.

American Blower ceiling suspension Vertical Heater, shown at left, also Venturafin Heaters for general purposes, and "SV" Sirocco Heaters for large areas, save critical materials — save vital fuel — save production space. See your nearest American Blower Accredited Contractor-Dealer or phone the nearest American Blower Branch Office for data.



Member of the Industrial Unit Heater Association

We proudly fly the U. S. Navy "E"

AMERICAN BLOWER

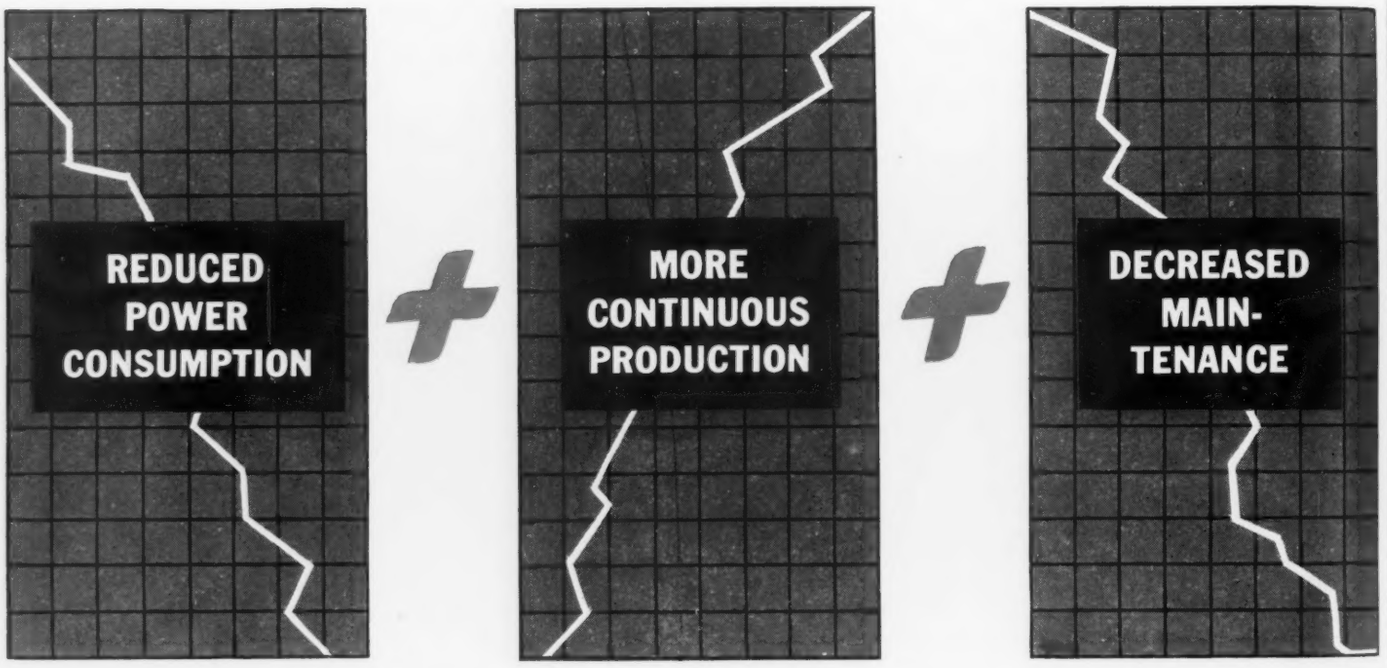
AMERICAN BLOWER CORPORATION, DETROIT, MICHIGAN

In Canada: CANADIAN SIROCCO COMPANY, LTD., Windsor, Ont.

Division of AMERICAN Radiator and Standard Sanitary Corporation

SOCONY-VACUUM'S FAMOUS LUBRICATION

Capacity



The "4-Factor" Story proved in Peacetime—Now vital in Wartime

GARGOYLE Lubricants

NEVER BEFORE IN U. S. A. HISTORY has there been such grim, absolute necessity for Correct Lubrication. It's a keystone in our Battle of Production. Without it no plant can achieve full efficiency.

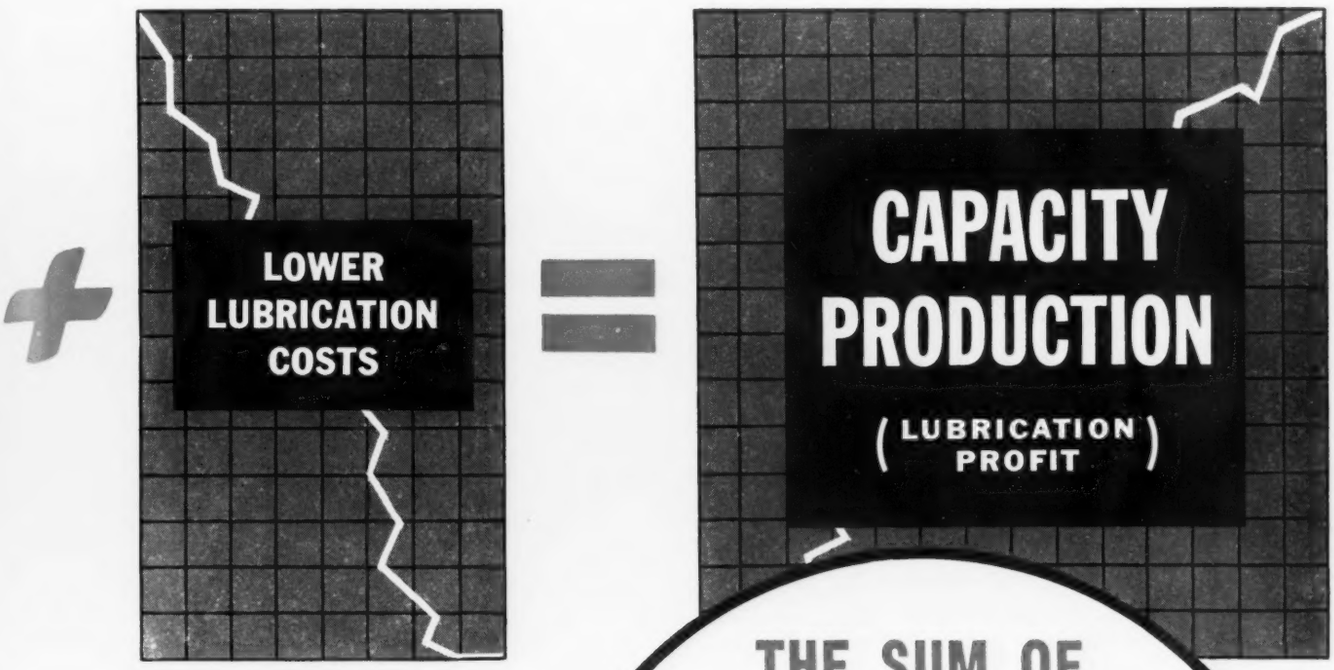
For years Socony-Vacuum—*the first to present and apply the principle of Correct Lubrication*—has been proving to management that it results in 4 savings which add up to a Lubrication Profit. Today, this Lubrication Profit pays off in Capacity Production!

If you are interested in results, talk this over with the Socony-Vacuum man. Backed by 76 years' experience, no one in the lubrication field is better equipped than he to give you the results you want!

CALL IN SOCONY-VACUUM FOR CORRECT

PROFIT NOW PAYS OFF IN...

Production!



Socony-Vacuum's 4-FACTOR STORY is a Famous guide for operating men throughout U.S.A. Industry

THE SUM OF THESE FOUR SAVINGS

4

1. REDUCED POWER CONSUMPTION
2. MORE CONTINUOUS PRODUCTION
3. DECREASED MAINTENANCE
4. LOWER LUBRICATION COSTS

=LUBRICATION PROFIT

SOCONY-VACUUM OIL CO., INC. • Standard Oil of N. Y. Div. • White Star Div. • Lubrite Div. • Chicago Div. • White Eagle Div. • Wadhams Div. • Southeastern Div. (Baltimore) Magnolia Petroleum Co. • General Petroleum Corp. of Calif.

LUBRICATION

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

TORRINGTON

The Exact Way

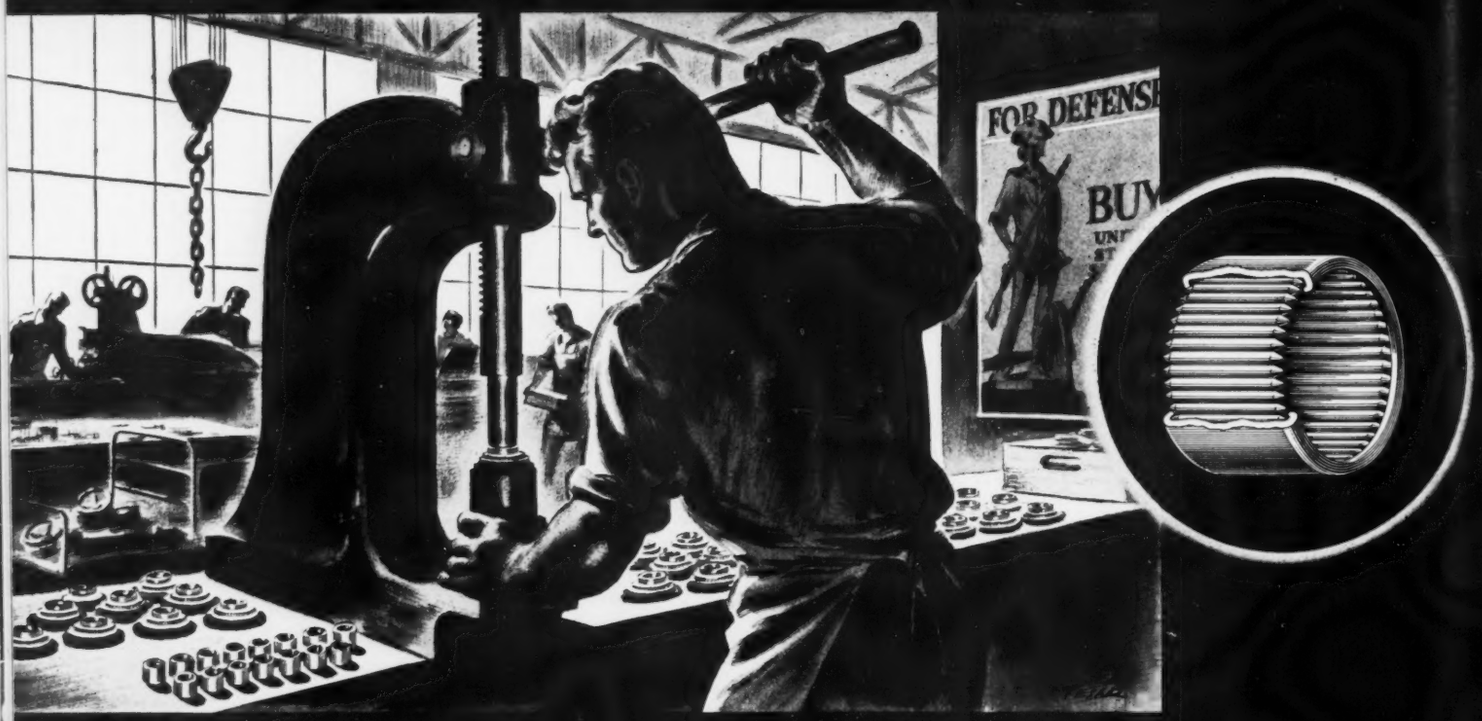
is the Torrington way of manufacturing knitting needles. That is why special machine methods of quality control are applied wherever possible throughout the Torrington production processes. It is this machine way—the way that requires greater *original* effort and ingenuity—that makes Torrington Needles produce better knitting and last longer in your machines. Torringtons will help you put your knitting on a more accurate, economical basis.

Spring Beard

NEEDLES

SINKERS · DIVIDERS · SPLIT DIVIDERS

FAMILIAR NAME ON



NEW ASSEMBLY LINES

NOW it's aircraft engines where sedans "used to grow"... or plastics instead of critical metals... or welding replacing rivets. The man on the assembly line has *seen* the changes taking place—one after another.

One thing, though, hasn't changed—merely "changed over" to war production. In the Torrington Needle Bearing, veteran production men recognize an old familiar name. For this unique bearing is proving its adaptability anew, in applications where its advantages mean more today than ever.

Its ease of installation, for example, is cutting assembly time... enabling green hands to "catch on" more rapidly, experienced hands to work with the speed and efficiency war production schedules demand.

Every feature of the Needle Bearing, in fact, is filling some vital wartime need. Its small size is saving space and critical materials; its simplified design is eliminating extra parts and assembly steps; its low coefficient of friction, assuring smooth performance... high capacity and efficient lubrication, reducing the need for replacement or maintenance attention.

And so it is easy to understand why the Torrington Needle Bearing is in service today on new assembly lines all over America—assembly lines geared to production-for-Victory.

FOR INFORMATION *concerning capacities and sizes, send for Catalog No. 116. Or consult a Torrington engineer. He is an expert in adapting the Needle Bearing's unique advantages to specific problems.*

LET'S GO U.S.A. KEEP 'EM FLYING

THE TORRINGTON COMPANY
TORRINGTON, CONN., U. S. A. • *Est. 1866*
Makers of Needle and Ball Bearings
New York · Boston · Philadelphia · Detroit
Cleveland · Seattle · Chicago · Los Angeles
San Francisco · Toronto · London, England

TORRINGTON NEEDLE BEARING

Every feature fills a wartime need

7 ADVANTAGES MAKE ACCOTEX FIRST CHOICE

AMONG SYNTHETIC COTS

GOOD COEFFICIENT OF FRICTION—Less eyebrowing than with other synthetic cots.
READY-GLUED—Inner surface coated with water-soluble glue for quicker assembly.
RESILIENCE—Non-thermoplastic, highly resistant to flattening; aid quick startup.
DURABILITY—Long life, resistance to grooving even under severe operating conditions.
OIL-RESISTANCE—Unaffected by oil, water, dyes, or solvents used in textile mills.
UNIFORMITY—Homogeneous composition assures uniform wear, equal life of every Cot.
SEAMLESS—No surface irregularities; no troublesome seams to open and shorten life.

ACCOTEX Cots are recommended especially for use on frames spinning coarse numbers, particularly frames equipped with revolving clearers; on back line rolls of long draft roving and drawing frames; and on wet twisting equipment.

You can count on unbiased recommendations from Armstrong, because we make a complete line of both cork and synthetic cots and have a background of over twenty years of roll covering research and manufacturing experience. For details, write to Armstrong Cork Company, Textile Products Section, 927 Arch St., Lancaster, Pa.

ARMSTRONG'S ACCOTEX COTS

CORK COTS (A) **ACCOTEX APRONS**

*ARALAC

The perfect protein fibre for blended fabrics

Converters, manufacturers, retailers—all have an exciting new promotion story to tell this season. The story of ARALAC—the first American man-made protein fibre.

ARALAC, made from milk, is News! For its very existence has so far been purposely kept from the general public.

ARALAC'S versatility is News . . . for not only is it the perfect blending fibre for dress fabrics, knit wear, and coatings—but because of its warmth and resilience, ARALAC is already in great demand for interlinings, chair cushion filler, pillows, and a variety of other products.

Finally, ARALAC's performance is News . . . for the hand, the dry warmth, and the resilience which ARALAC gives to a fabric create a ready acceptance by the buying public.

Capitalize on these facts during this Fall season.

★ ★ ★

A SALUTE to the Mills!
Your efforts have made this possible

★ ★ ★

ARALAC, INC.
Sales Office, 230 Park Ave., New York City
*Trade Mark Reg. U. S. Pat. Off.

ARALAC produced by a division of National Dairy Products Corporation, represents but one of the many contributions this nation-wide organization is making toward the more efficient utilization of America's agricultural resources.

SHOULDER TO SHOULDER BESIDE OUR FIGHTING MEN—

In cheerfully assuming the tremendous responsibility of speeding the record production of cloth and fabrics for uniforms and countless other military uses, the Textile Industries have demonstrated the productive power and the firm determination of free Americans to stand shoulder to shoulder beside our fighting forces.

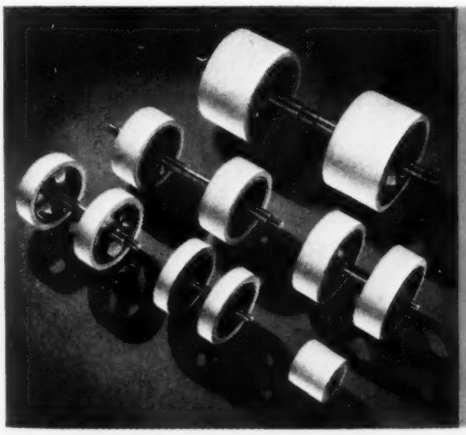
And as makers of textile products for spinning and weaving operations, Dayton is proud of its part in this great war production effort. We consider it both a privilege and a duty to serve the great Textile Industries which are serving our nation so well.

In addition to serving the Textile Industries, Dayton's facilities and production experience are today being dedicated to the manufacture of special parts for Army and Navy Combat Equipment.

THE DAYTON RUBBER MFG. CO.
TEXTILE PRODUCTS DIVISION
DAYTON, OHIO
The Originators and Pioneers of Dayco Tempered Roll Coverings

GREENVILLE SALES OFFICE
Woodside Building . . . Greenville, S. C.

EXPORT DIVISION
DAYTON RUBBER EXPORT CORP.
38 Pearl Street, New York, N. Y., U. S. A.



Dayton
***Thorobred* TEXTILE PRODUCTS**
Dayco WORSTED COTS—LOOM SUPPLIES
MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

Copyright 1942, The Dayton Rubber Manufacturing Company

FOR INDUSTRY..IT'S

The Fan of Tomorrow!

Today..IT'S PUTTING

THE GREATEST STEP

NEW STURTEVANT

Victory AXIFLO Fan!

FOR NAVY FORCED DRAFT

☆

SAVES SPACE...WEIGHT...POWER

It's the greatest achievement of Sturtevant's 80 years of Fan Research...an Axiflo Fan that hits a new high in fan efficiency, in power savings, and in axial flow fan operating pressures.

TODAY—the *Victory* Axiflo Fan is saving weight, space and power aboard battleships, cruisers—in fact, every type of naval vessel—providing greater fuel and ammunition carrying capacity. The needs of our nation's Navy must be met first, and for the duration the new fan will be restricted to Naval use.

TOMORROW—when intensified competition returns,

STURTEVANT — FOUNDER OF

EFFICIENCY OVER 90%—The characteristic constant speed curve of this Fan shows mechanical efficiencies in excess of 90% available over 22% of the performance range—in excess of 75% over 70% of the performance range.

40% SAVING IN SPACE—As shown by the design of this Fan for hull ventilation—at left—it is extremely compact for the volume of air handled—generally occupying only 60% of the space required for other fan designs of comparable capacities.

BIGGER "BONES" IN THEIR TEETH!

FORWARD IN FAN HISTORY!

making every saving an important factor in successful operation, the new Axiflo Fan will be available to all industry—to bring new economies to heating, ventilating, air conditioning, mechanical draft and practically every industrial application where fans are used. Learn about this remarkable new fan development in Bulletin No. 460 describing and illustrating its various designs, construction features and performance advantages. A copy will be gladly sent on request.

B. F. STURTEVANT COMPANY

Hyde Park, Boston, Mass. *Branches in 40 Cities*

B. F. Sturtevant Company of Canada, Ltd., Galt, Toronto, Montreal

Sturtevant

REG. U. S. PAT. OFF.

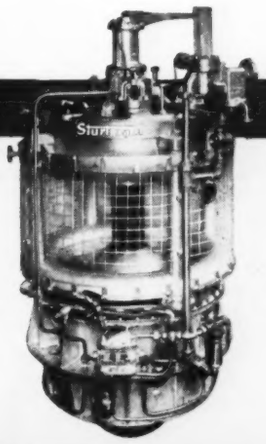
Puts Air to Work

Published with the permission of the U. S. Navy

THE AIR HANDLING INDUSTRY

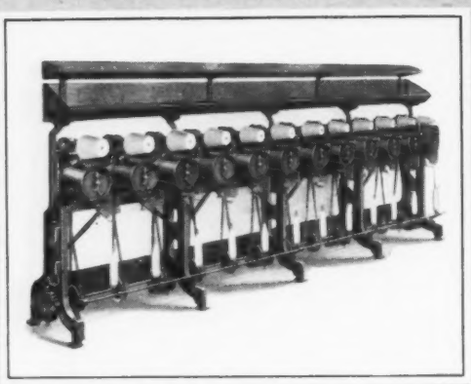
UNIFORM DUCT VELOCITIES—Ingenious STREAMVANES behind the wheel on the discharge end straighten out the tornado-like spin that comes from the wheel, insure uniform velocity and flow through the duct, higher system efficiency, less overall resistance.

STATIC PRESSURES UP TO 60″—With turbine drive, static pressures up to 60″ and speeds up to 5,000 r.p.m. are attained. Motor-driven units permit use of high speed standard motors (1160, 1750 and 3450 r.p.m.), resulting in a light, efficient driving mechanism. Quiet operation has been achieved by the elimination of turbulence. Shown at the right is a compact, turbine-driven unit of larger capacity which is designed for vertical installation.

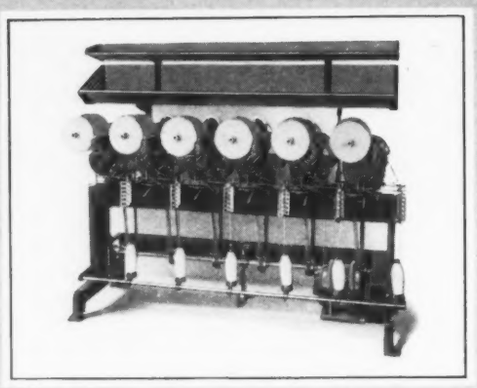


Winders that can "take it"!

IDEAL FOR HEAVY DUTY REQUIREMENTS OF VICTORY PROGRAM



FOSTER MODEL 40



FOSTER MODEL 77

The Victory Program requires far greater poundages than ever before of coarse yarns and heavy plies. It is vitally important that mills handling these yarns be equipped with winders that can "take it".

Here are two such machines, tried and proved: the Model 40 and Model 77 precise winders for cones and tubes. They operate year in and year out with a minimum of mechanical repair and maintenance.

1. Precise wind or lay.
2. Ballbearing spindles and drive shaft standard on Model 77, optional on Model 40.
3. Spindles driven by individual quarter-turn belts.
4. Equipment for drawing either overend or unrolling.
5. Arbors for various types of cones and tubes furnished for both machines.
6. Traverses on Model 77 up to 8", on Model 40 up to 6½".
7. Multiple end winding of braider tubes on the Model 40.
8. The Model 77 winds a range of counts from 8's 3 ply to 8's 100 ply, the Model 40 from 30/2 to 8/40.

FOSTER MACHINE COMPANY

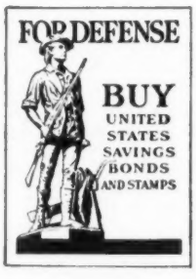
WESTFIELD, MASSACHUSETTS

SOUTHERN OFFICE: JOHNSTON BLDG., CHARLOTTE, N. C.

AMERICAN

Super-mercerized DURENE

This highly developed product of peace-time demand, American Super-Mercerized Durene, is also meeting our government's requirements for both quantity and quality in many important phases of the production for war.



Fabricord
AMERICAN'S Special
3 ply yarn for
English Rib Construction

AMERICAN
YARN AND PROCESSING COMPANY
MOUNT HOLLY N. CAROLINA

Special Representative: E. F. REDDING, MOUNT HOLLY, N. C.

CHICAGO, ILLINOIS	CHATTANOOGA, TENN.	HIGH POINT, N. C.	NEW YORK, N. Y.	PHILADELPHIA, PA.	CHARLOTTE, N. C.
Mr. E. W. Wood	Mr. Tom Moore	Mr. E. J. Holbrook	Schoolfield & Co., Inc.	Roland Swallow	Cosby & Thomas
222 West Adams St.	735 Chestnut Street		40 Worth Street	Schoolfield & Company	
				3701 N. Broad St.	

Make this label your key to new or conversion lighting

Certified
FLEUR-O-LIER
The Manufacturer guarantees by affixing this label that this Fluorescent Luminaire is a duplicate of samples found by periodic examination to comply with the minimum requirements as set up in the
"SPECIFICATIONS FOR LUMINAIRES, FITTINGS AND AUXILIARIES FOR FLUORESCENT LAMPS"
which are sponsored by the Manufacturers of Mazda Lamps.
ELECTRICAL TESTING LABORATORIES
NEW YORK, N.Y.
ETL
A COPY OF THIS CERTIFICATE SHOULD APPEAR UPON EACH UNIT OR PACKAGE
ETL
FLUORESCENT LIGHTING FIXTURES EMPLOYING EXISTING TYPES OF LAMPS ARE NOT RECOMMENDED FOR SCHOOLS, OFFICES AND SIMILAR LOCATIONS UNLESS LAMPS ARE SHIELDED FROM DIRECT VIEW
THIS CERTIFICATION IS CONTINGENT UPON EMPLOYMENT OF CERTIFIED AUXILIARIES OF OVER 85% POWER FACTOR

For large plants or small

wherever fluorescent lighting is needed to speed the job . . .

specify FLEUR-O-LIERS

With War needs forcing plants to cram three days' work into one, the value of dependable fluorescent lighting is making itself more evident than ever. Whether it's in an office, drafting room or out in the shop, you can specify FLEUR-O-LIERS, and be sure of getting fixtures built for dependable service and maximum lighting performance. The FLEUR-O-LIER label is your key.

FLEUR-O-LIERS are made in various sizes and designs by over 45 leading fixture manufacturers located at important points all over the country. This means better service on war plant orders, for either new or conversion lighting.

FLEUR-O-LIERS are *tested* and *certified* by impartial Electrical Testing Laboratories of New York as meeting 50 definite Standards set up by MAZDA lamp manufacturers for balanced performance and satisfactory operation.

A vital tool in wartime production, fluorescent fixtures now require a suitable WPB priority rating. Any of the FLEUR-O-LIER Manufacturers, your electrical contractor, wholesaler or electric service company will be glad to work with you on this to get the best lighting possible.

Precision and speed are uppermost in this airplane engine plant. These sturdy 100-watt FLEUR-O-LIER units are helping to keep production in high gear.

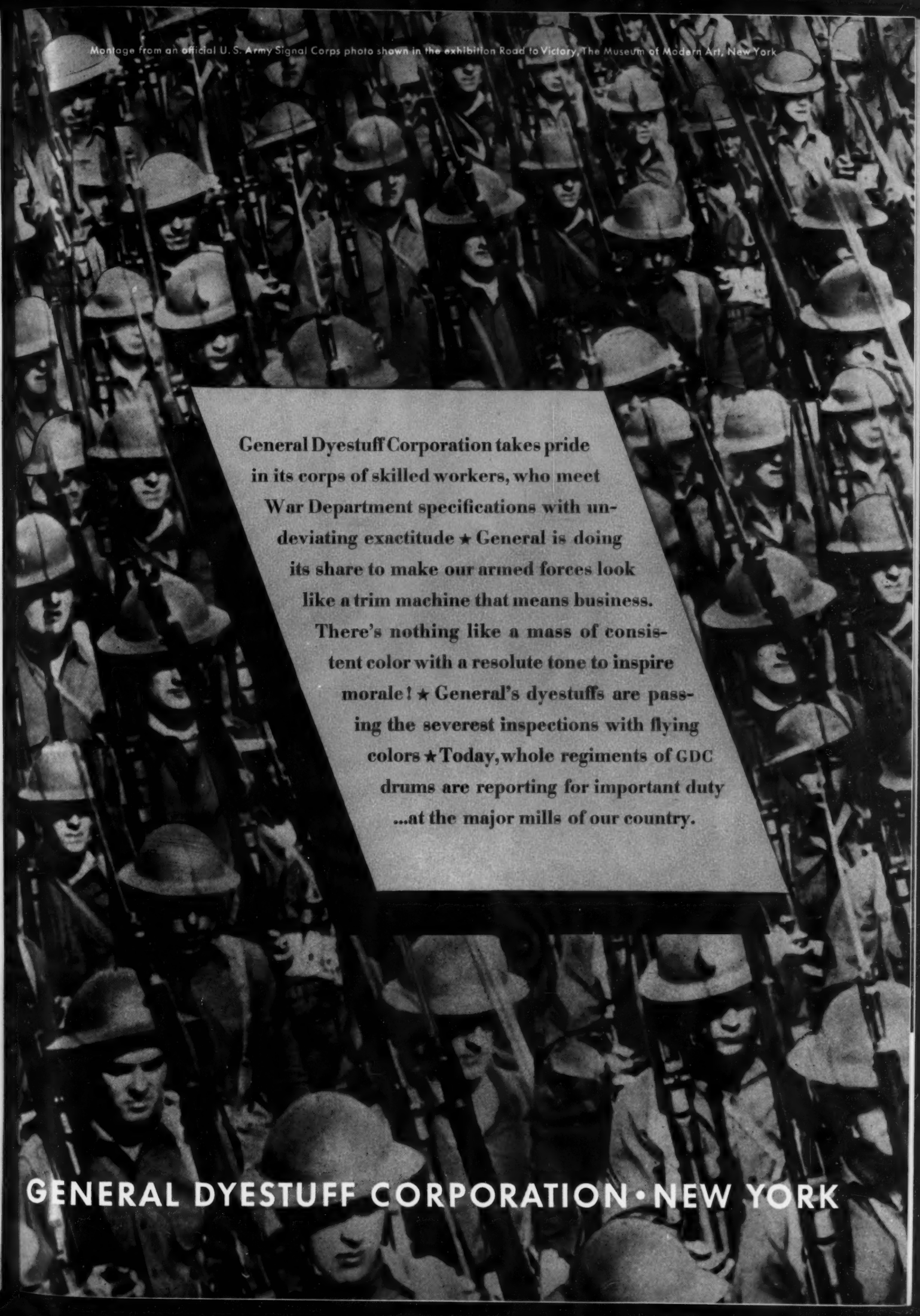
FLEUR-O-LIERS provide even, shadow-free light in this fabrics shop helping to prevent cutting mistakes which would mean accidents and waste.

Get this new booklet for full details and list of manufacturers. Write FLEUR-O-LIER MANUFACTURERS, 2120-8 Keith Building, Cleveland, Ohio.

FLEUR-O-LIERS

CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

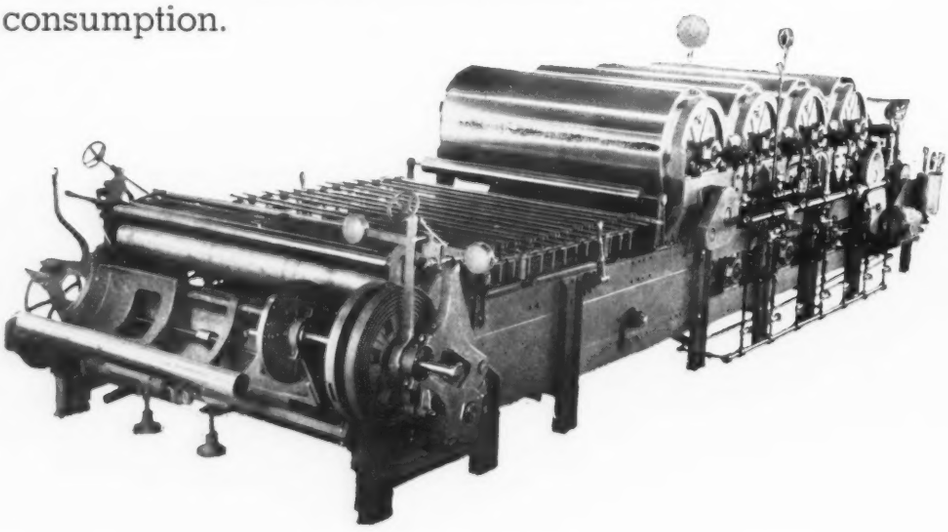
Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements


Montage from an official U. S. Army Signal Corps photo shown in the exhibition Road to Victory, The Museum of Modern Art, New York
General Dyestuff Corporation takes pride in its corps of skilled workers, who meet War Department specifications with undeviating exactitude ★ General is doing its share to make our armed forces look like a trim machine that means business. There's nothing like a mass of consistent color with a resolute tone to inspire morale! ★ General's dyestuffs are passing the severest inspections with flying colors ★ Today, whole regiments of GDC drums are reporting for important duty ...at the major mills of our country.
GENERAL DYESTUFF CORPORATION • NEW YORK

Parachutes and Snag-Proof Clothing Used by Our Paratroopers are SIZED ON JOHNSON SIZERS

Because of the uniform quality of yarns sized on these machines JOHNSON WARP SIZERS OR SLASHERS

are used to size much of the yarns now going into our flying equipment—as well as into many articles for civilian consumption.



This modern Johnson sizer is equipped with automatic s t r e t c h indicator and finger-tip control of stretch.

CHARLES B. JOHNSON MACHINE WORKS
PATERSON, NEW JERSEY

NOPCO Announces Hosiery Treatment No. 2

NO ORGANIC SOLVENTS REQUIRED

LESS THAN 1% PRESS-OFFS

Check these 6 big advantages of Nopco Hosiery Treatment No. 2

1. Soluble in water; easy and economical to use
2. Requires no organic solvents; eliminates toxic fumes and fire hazard
3. Can be applied on all types of rayon yarns without scouring, regardless of pre-size treatment
4. No special equipment is needed; ordinary soaking methods can be used
5. Protects yarns against abrasion
6. Less than 1% press-offs during continuous production reported by leading knitters

NOPCO Hosiery Treatment No. 2 is a new water emulsifiable synthetic wax compound for use in sizing rayon yarn for full-fashioned hosiery knitting. It is extremely easy to use . . . simply mix with water and apply in usual manner. In addition to treating effectively regular rayon skeins, Nopco Hosiery Treatment No. 2 can also be applied directly to oiled skeins or cones (after reeling into skeins) as received from the manufacturer, without the necessity of scouring before soaking. Mail coupon below for full information!

NOPCO
REG. U.S. PAT. OFF.
"EVOLVED THRU RESEARCH"

National Oil Products Co.

HARRISON, NEW JERSEY

Boston Chicago Cedartown, Ga. Richmond, Cal.

NATIONAL OIL PRODUCTS COMPANY
Harrison, New Jersey

Please send technical data regarding applications of the new Nopco Hosiery Treatment No. 2.

Name .....

Company .....

Address .....

City .....

Lift the Film of "NIGHT BLINDNESS" from your Plant

In war plants all over the land MILLER Continuous Wireway Fluorescent Lighting System has raised the sights on production by lifting the level of illumination to 50 foot candles, 100 or higher . . .

99,000 out of 100,000 war plants have inadequate lighting for fast, precision production . . . according to the National Better Light Better Sight Bureau.

Inability to see clearly and sharply at all times can be just as tragic a liability to war workers as "Night Blindness" is to fighting pilots.

Today nothing less than ideal "seeing" conditions in your plant, 24 hours around the clock, should satisfy you.

MILLER 50 FOOT CANDLER and 100 FOOT CANDLER will put 50 foot candles, 100 or better of man-made daylight on every working surface in your plant. MILLER TROFFERS will duplicate that performance in your plant offices and drafting room.

They will accomplish this at an economy and speed of installation that will pleasantly surprise you.

The sooner you get a MILLER engineer on the scene to give you an analysis of *exactly* the working illumination you need today, the sooner you can get busy and beat your best war production promise. *Write or wire today.* (Representatives in principal cities.)

BUY U. S. WAR BONDS

MILLER

50 FOOT CANDLER
100 FOOT CANDLER
MILLER TROFFERS
Continuous Wireway Fluorescent Lighting Systems

THE MILLER COMPANY
MERIDEN, CONN.
Pioneers in Good Lighting Since 1844

• MILLER offers a complete line of filament and fluorescent lighting equipment.

HOW GOES THE WAR ON WASTE in YOUR plant?

Illustrated here is a water repellent, olive drab, cotton fabric for use as an outer material for Army mackinaws. For full details, see Quartermaster Corps Tentative Specification P. Q. D. No. 127.

Few individual mills can afford waste of any kind at any time.

Now the continued existence of entire nations depends on our making the most efficient, effective use of man power, machines and raw materials . . . including the textile chemicals essential to your continued production.

To help *you* check on whether *you* are winning the war on waste as it involves hard-to-get chemicals in your plant, here are four questions:

1. IS YOUR STOREKEEPING SYSTEM WASTE-TIGHT?
Are you taking the proper precautions against loss of volatile materials . . . spoilage of heat and moisture-sensitive materials . . . leakage from storage vats and bins?

2. ARE YOUR FORMULAE WASTE-TIGHT?
Are you making up processing solutions in *exactly* the quantities needed for the goods to be processed so that no left-overs are wasted?

3. ARE YOUR PROCESSES WASTE-TIGHT?
Are there any ways in which you can change a process or adjust your methods of application to use less of a given material?

4. IS YOUR PRODUCTION EQUIPMENT WASTE-TIGHT?
Would control instruments on such equipment as scouring machines, slashers or dyeing machines help cut waste?

For our part, we are bending every effort to increase production on all the twenty-seven essential chemicals which Monsanto supplies to the textile industry . . . without sacrificing those two essentials you must have in *every* shipment of textile chemicals--*quality and uniformity*. MONSANTO CHEMICAL COMPANY, St. Louis, Missouri, and Everett Station, Boston, Massachusetts.

MONSANTO CHEMICALS FOR THE TEXTILE INDUSTRY

Acetic Acid
Aluminum Sulfate
Ammonium Phosphates
Aroclors *(chlorinated diphenyls)*
Caustic Soda
Chlorine
Dyestuff Intermediates
Disodium Phosphate
Glauber's Salt
Lacquers
Merclor *(bleach)*
Mixed Acid
Monosodium Phosphate
Nitrate of Iron
Oil of Vitriol
Phosphoric Acid
Santomerse *(wetting and surface active agent)*
Sodium Acid Pyrophosphate
Sodium Bisulfite
Sodium Sulfate, *anhydrous*
Sodium Sulfite
Solvents
Sopet *(wool spinning lubricant)*
Sulfuric Acid
Tetrapotassium Pyrophosphate
Tetrasodium Pyrophosphate
Tricalcium Phosphate
Trisodium Phosphate

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

An Emergency Statement

to Industrial Executives

Manufacturers—large and small—have a special opportunity to aid the war effort—over and beyond the contribution they are already making.

That opportunity is Salvage.

No matter how much scrap is dug out of the attics and basements of homes, the fence corners and gullies of farms, war production factories will still fall far short of the scrap material needed unless the manufacturers of America get 100 per cent behind the program.

Six million additional tons of scrap iron and steel alone, as well as vast quantities of rubber and other materials, are urgently required to bring our war program to full strength.

Whether you are a lace curtain manufacturer or a maker of drop forgings the obligation is the same.

The job is more than simply collecting scrap material around the plant, or turning in the scrap which is created on the premises. It is a job of condemning obsolete machinery, clearing out unusable stocks, obsolete tools, dies, drills, fixtures, etc.

All unusable material, equipment, and stocks should be scrapped at once and put back into war production.

The philosophy of "It may come in handy some day" must give way to the doctrine of "My country needs it now."

Patriotic volunteer committees of executives are already hard at work on this problem in 421 industrial centers.

The Industrial Section of the Conservation Division has a corps of technical advisers who are prepared to work with all types of industries.

A thoroughgoing Salvage program in a factory can not only help meet the present emergency, but can help prepare that factory for its postwar operations through the elimination of once wasteful practices.

1 The first thing to do is to put some one individual in charge of Salvage in all departments of your business and give him not only the responsibility to act, but the authority to act.

2 The next thing to do is to get in touch with your local Industrial Salvage Committee and map out a detailed program with the materials and ideas that are available. Their program contains 17 simple steps.

If in any doubt, write or wire at once to the Conservation Division, War Production Board, Railroad Retirement Building, Washington, D. C.

This job is being tackled by a democratic nation through the volunteer efforts and initiative of democratically managed industrial concerns, rather than through directives or compulsion as it is done in Axis countries.

Every executive, every superintendent, every foreman and every worker in every plant can help.

The main thing is to get started now.

All unusable material, equipment, and stocks should be scrapped at once and put back into war production. Please read this message and act **now.**

D. M. NELSON, CHAIRMAN, WAR PRODUCTION BOARD

This message approved by Conservation Division

WAR PRODUCTION BOARD

This advertisement paid for by the American Industries Salvage Committee (representing and with funds provided by a group of leading industrial concerns).

SCRAP FROM HOMES AND FARMS—As individuals, search your home from attic to basement. Search your garage. Look at the old familiar things in a new light. Do you need them—or can you get along without them? Your country needs every pound of scrap iron and steel, other metals, rubber, rags and burlap to provide the fighting materials our armed forces must have. Take your scrap to the nearest Salvage Depot—give it to a charity—or sell it to a Junk dealer. . . . If you live on a farm, consult your County War Board or your farm implement dealer. In any case, your scrap will flow back into the blood stream of our war production.

TURN IN ALL YOUR

SCRAP

It'll Shorten the War!

LET'S FACE THESE FACTS: Waste materials—scrap metals, rubber and all the rest—are the lifeblood of America's war industry, perhaps of *your own plant!* The demand is great, the supply dwindling. Before we can win, *every pound* of these idle materials must be converted into ships, tanks and guns. Remember this: About one-half ton of steel scrap is needed for every ton of new steel produced.

There may be forgotten tons of scrap in *your* plant. *Put these waste materials to work.* (Steel scrap collected will be purchased by the steel industry at the government-controlled price.)

HERE IS HOW YOU CAN HELP:

1. Name a wide-awake salvage committee chairman for each division and department of your plant. Set up a definite, *continuous* salvage program.

2. Inspect worn-out or obsolete equipment. If it can be used—fine! If not, why not scrap it?

3. Set a plant clean-up day for *every* week. (War machines never stop eating.) Collect everything that is not useful.

4. Separate the scrap — ferrous and non-ferrous metals, for example. Then call the scrap dealer.

5. On plant bulletin boards urge your employees to search their homes and garages for old rubber articles and discarded metal equipment. Then get it to a local Salvage Committee, charity, or junk dealer.

★ ★ ★

The reward is great: American lives saved, a shorter war and a quicker return to your peacetime work. Will you help? The American Rolling Mill Co., 2291 Curtis Street, Middletown, Ohio.

★ ★ ★ ARMCO ★ ★ ★

This advertisement is in support of the Salvage Program of the Bureau of Industrial Conservation, the War Production Board.

NOT TOO LITTLE

NOT TOO LATE

RUBBER manufacture today is measured in terms of human safety, human liberty and human life.

Towards these demands it must do its duty first with all the means in its power. It must meet every demand on it that will help to win the war. Only as its primary duty permits can it hope to serve your customary purchase requirements.

If there are inconveniences and shortages remember that rubber is a war essential. It is fighting for us all and no one will want the supply for this purpose to be too little or too late.

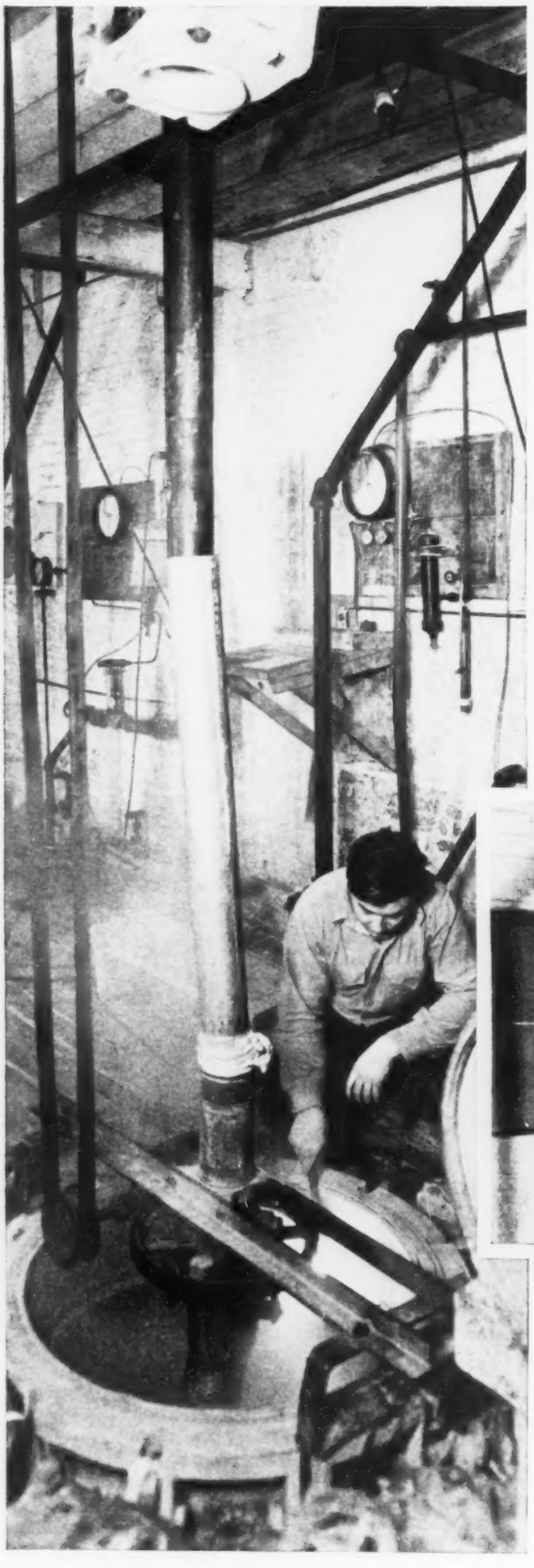
BWH

BOSTON WOVEN HOSE AND RUBBER COMPANY

WORKS: CAMBRIDGE, MASS., U.S.A.

P. O. BOX 1071, BOSTON, MASS., U.S.A.

Plants that COUNT COSTS BY THE CALENDAR *Select Foxboro!*

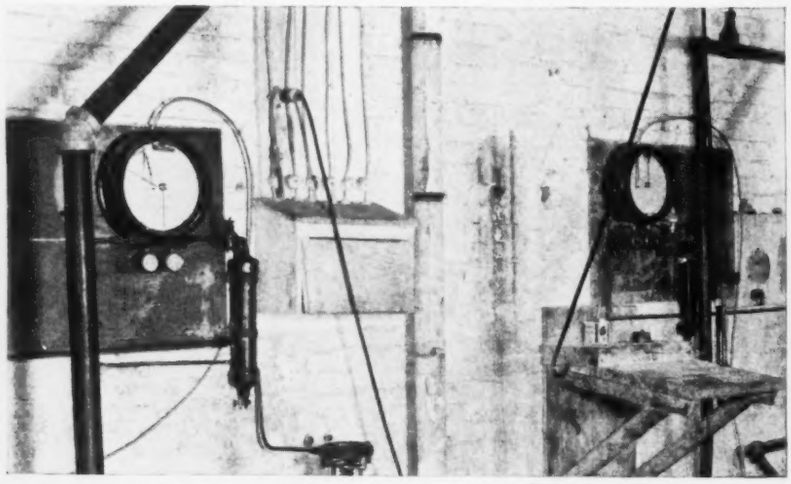


NO matter *how well* any controlling, recording or indicating instrument does its job . . . its real value depends on *how long* it will give precision performance without interruptions. Textile men who have compared various instruments in service testify that they get *more years of sustained accuracy* when they select Foxboro! Fifteen to twenty years of continuous operation is not unusual.

Here is just one of many examples. In the bleaching house pictured, one Foxboro Temperature Controller has given continuous, accurate control for over ten years. Because of this cost-cutting dependability, Foxboro was again specified when an additional control unit was installed three years ago.

Kier operation is most efficient under definite controlled temperatures. Kiers can be operated at maximum production without wasting peroxide. In addition, each bleach is uniform . . . whites are brighter . . . colors are matched quicker in the dye house and are more uniform.

Write for details on Foxboro Instrumentation for bleaching or any other textile process. **The Foxboro Company, 84 Neponset Ave., Foxboro, Mass., U. S. A.** Branches in principal cities of U. S. and Canada.



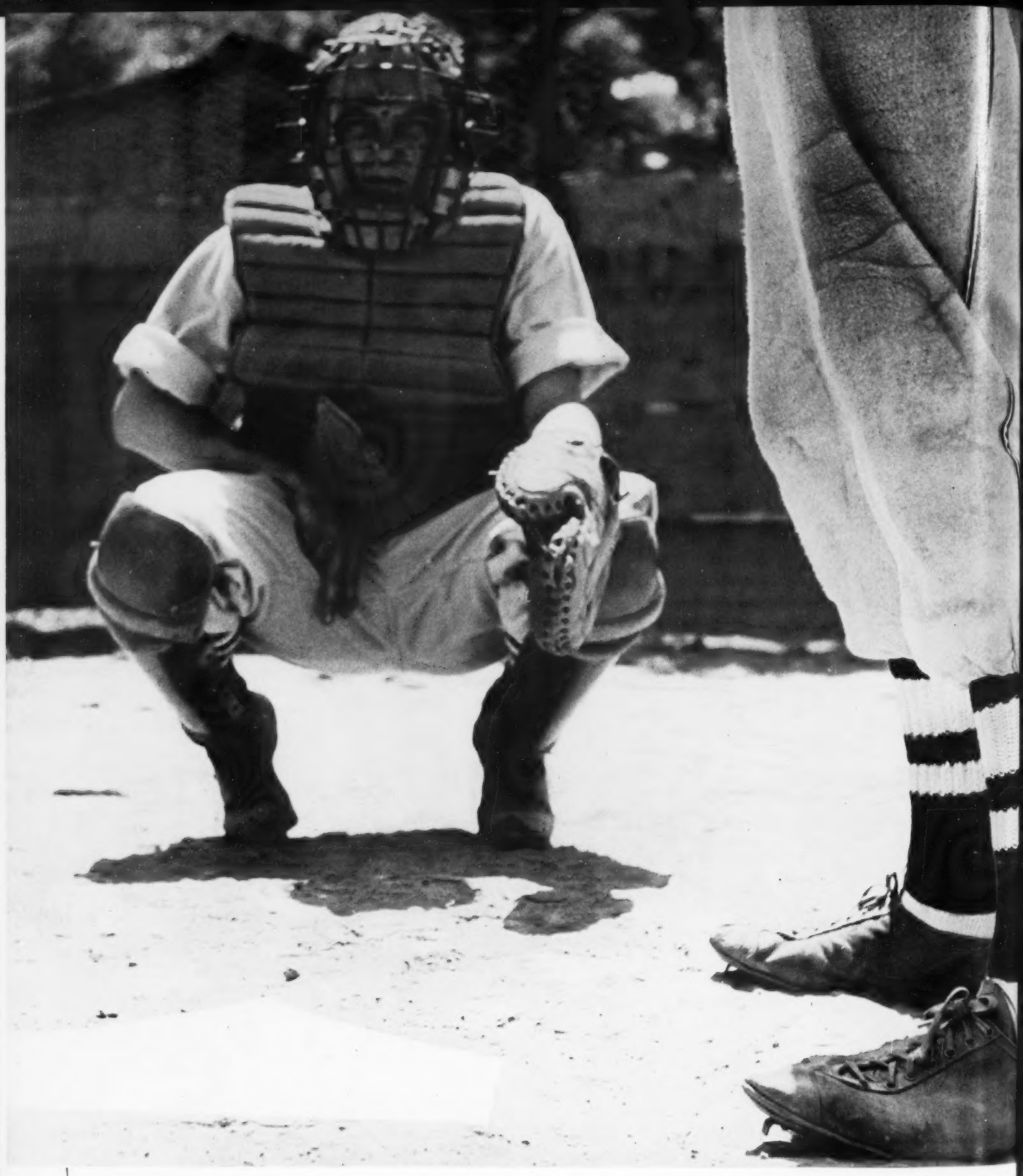
Re-order indicates Foxboro dependability. Kier Controller (left) has served 10 years. Second Foxboro unit (right) added 3 years ago.

FOXBORO
REG. U. S. PAT. OFF.
Instrumentation

U... Navy **"E" Insignia** (twice size) ...ded employees of Textile Machine W... July 25, 1941, for outstanding ... ction of Naval Ordnance.

Three little sisters . . . Every woman knows that there's a difference in stockings — a difference that shows itself in the quality of the fabric. Every hosiery manufacturer knows that no machine can knit better fabric than the needles can produce. Keep your knitting machines young and effective with TMW Needles *. . . And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.



U. S. Navy "E"—awarded Textile Machine Works July 25, 1941, for outstanding production of Naval Ordnance. The white star is evidence of continuing superior performance.

"He who neglects the present moment throws away all he has."
SCHILLER

Until the Victory is Won! . . . The men and experience back of Reading Full-Fashioned Knitting Machines are enlisted for the duration. We *cannot* give you new machines — but we *will* do the next best thing: Our engineers will do their utmost to help you keep your present equipment at the point of highest efficiency. *Let us tell you about our complete reconditioning service and what it means in terms of better fabrics and bigger profits.*

TEXTILE MACHINE WORKS • READING, PA.

Stainless Steel is Scarce!

Simple care will add years of life to your equipment...

THESE CARDS WILL TELL YOU HOW!

There's nothing better than stainless steel for certain classes of service. Years of performance have proved that —have demonstrated its exceptional resistance to rust and corrosion, to wear, to rough use. The high quality of even the most sensitive products processed in stainless steel equipment attests to its inertness and freedom from contamination. Production costs reveal its ease of cleaning—low maintenance costs, its long service life.

So—if you have stainless steel equipment, you're lucky—because YOU PROBABLY CANNOT REPLACE IT TODAY, unless you can qualify for an *exceptionally high* priority.

And it is of the *UTMOST IMPORTANCE* that you take *every* precaution in the use and cleaning of your stainless steel equipment to *extend* its normally long term of useful service to the greatest possible limit. A little care will add years to its life.

Republic's Stainless Steel Conservation Cards will help you give it that care.

From laboratory and performance reports covering more than two decades of experience with ENDURO* Stainless Steel, Republic metallurgists have prepared a simple, but complete, list of precautions and suggestions which may help you get years more service from your stainless steel equipment.

This valuable information—applying specifically to textile equipment—has been printed on easy-to-read wall cards which may be posted in your plant.

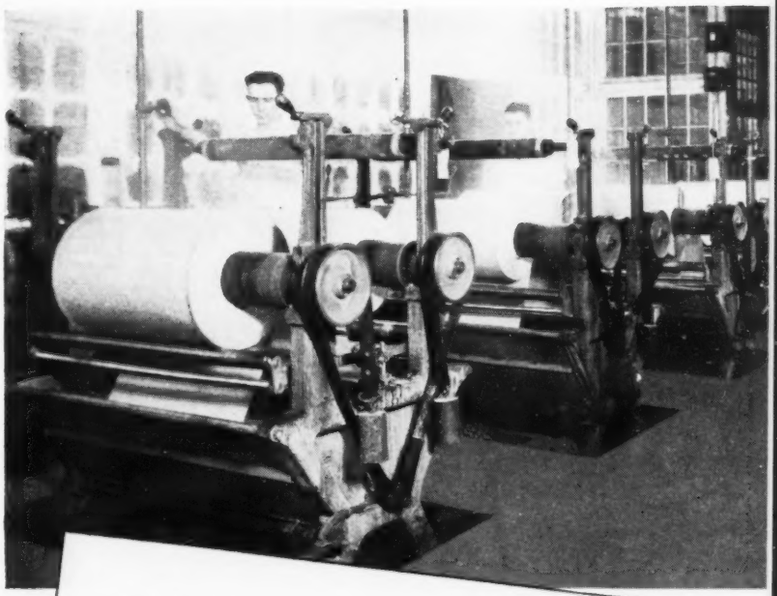
Fabricators of ENDURO equipment have been supplied with these cards for distribution to their customers. If you haven't received one, ask your fabricator. Or, if you will write us direct and tell us the nature of your operations, we shall be glad to send you one (or several, if your plant is large) direct.

REPUBLIC STEEL CORPORATION
Department TW
Alloy Steel Division Sales Offices: Massillon, O. • General Offices: Cleveland, O.
Berger Manufacturing Division • Culvert Division
Niles Steel Products Division • Steel and Tubes Division
Union Drawn Steel Division • Truscon Steel Company
Export Department: Chrysler Building, New York, New York

• • •

TO ENDURO FABRICATORS: *Tell us how many cards you need for your customers and we shall be glad to send them imprinted with your name and address.*

*Reg. U. S. Pat. Off.



CONSERVE STAINLESS STEEL
Textile Equipment
IT'S EASY . . . HERE'S HOW

Republic ENDURO Stainless Steel is the nearest approach to the perfect metal for textile equipment. It is extremely strong and withstands abuse far better than most other metals. However, proper care requires only a little time. Give your stainless steel equipment regular, systematic care, and you will obtain maximum service life.

Many types of corrosive conditions are encountered in the textile industry. In many types of service, the more highly corrosion-resistant type of stainless steel, ENDURO 18-8-SMo, is recommended.

Follow These Suggestions for Longer Service Life...

1 **Cleanliness is of utmost importance at all times.** This cannot be stressed too strongly. To avoid contamination of dye solutions, use stainless steel wood or brushes for cleaning. Never use ordinary steel wood or brushes. Acid solution of sodium dichromate can be used for cleaning, but the equipment should be rinsed thoroughly with water immediately after.

2 **Avoid handling strong solutions of sulphuric and hydrochloric** or other strongly reducing acids in stainless steel equipment.

3 **Acid or chloride solutions should not be allowed to dry on stainless steel surfaces.**

4 **Sulphuric acid rather than hydrochloric acid should be used for discoloring solutions.**

5 **Do not hold continuous chlorine bleaches in stainless steel tanks.**

6 **If the equipment is so constructed that wood is in constant contact with stainless steel,** both the wood and the steel should be painted with asphaltum paint or zinc chromate primer.

7 **Avoid cyclic or bending stresses at all times.**

8 **Galvanic cell corrosion may be avoided** by using same types of metals together. Work for uniformity in regard to solutions, temperatures, agitation, concentrations and surface conditions. Often these ideal conditions may not be possible. Corrosion, however, may be greatly retarded by careful cleaning and periodic preservation by exposing the parts to clean air.

* HOW TO CLEAN ENDURO STAINLESS STEEL EQUIPMENT *
Cleansers and Their Reactions to Stainless Steel

REPUBLIC

Enduro STAINLESS STEEL

Reg. U. S. Pat. Off.

Other products for the Textile Industry include Toncan* Iron Pipe and Sheets—Upson Quality Bolts, Nuts and Rivets—Berger Lockers and Shelving

Actual photo of a Gulf engineer consulting with Overseer on the lubrication of this large spooler, one of the very few spoolers of its size in the country.

"A shutdown of this spooler would mean a closed mill — so we use Gulf Quality Lubricants"

SAYS OVERSEER

"GULF OILS AND GREASES KEEP THE KNOTTER HEAD AND OTHER VITAL PARTS IN PERFECT CONDITION"—

"OUR warpers are supplied by this one big spooler, so we can't take any chances on its lubrication," says this Overseer. "That is why we have standardized on the oils and greases recommended by a Gulf engineer. These quality lubricants keep the knotter head and other vital parts in perfect condition."

Here's the reason why so many mill men rely on Gulf quality oils and greases to protect their equipment against excessive wear, breakdowns and mechanical troubles: Gulf lubricants have *greater stability* and *endurance!* They stand up and provide a tough, long-lasting film of highest lubricating value even under severe operating conditions.

Let a Gulf engineer demonstrate to you—in your mill—how Gulf lubricants provide an extra margin of protection to your equipment—and help you secure uninterrupted production.

Gulf quality lubricants are quickly available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write or 'phone your nearest Gulf office today.

GULF OIL CORPORATION
GULF BUILDING

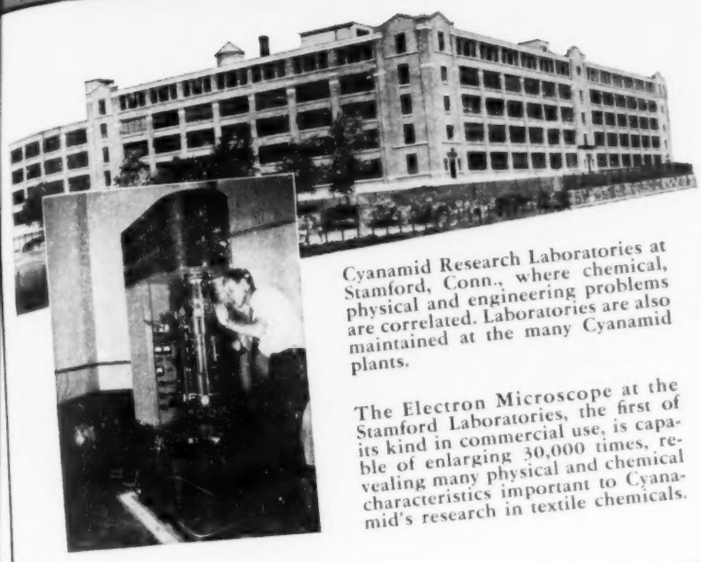
GULF INDUSTRIAL LUBRICATION

GULF REFINING COMPANY
PITTSBURGH, PA.

OIL IS AMMUNITION — — USE IT WISELY!

RESEARCH!

THE EXTRA VALUE IN CYANAMID QUALITY PRODUCTS FOR THE TEXTILE INDUSTRY



Cyanamid Research Laboratories at Stamford, Conn., where chemical, physical and engineering problems are correlated. Laboratories are also maintained at the many Cyanamid plants.

The Electron Microscope at the Stamford Laboratories, the first of its kind in commercial use, is capable of enlarging 30,000 times, revealing many physical and chemical characteristics important to Cyanamid's research in textile chemicals.

The extraordinary demands of the times are such as to tax the ingenuity of all industry. The textile industry, too, is faced with additional burdens on its capacities, and problems as to its processes and materials. Only the best is equal to the job to be done . . . and the importance of the proper selection of raw materials to meet the new requirements is greater than ever before.

At Cyanamid, research in textile chemicals, always an important phase of the Company's activities, is directed toward advancing the means and methods of meeting present conditions, and conditions that may be faced in the future. The many chemical specialties Cyanamid supplies . . . sulphonated oils, penetrants, softeners, finishes, sizing compounds, wetting agents and others . . . are subjected to critical examination for ways to improve quality and to broaden their usefulness. New products are developed to meet new conditions and to replace others made unavailable due to the emergency. In this work Cyanamid coordinates the most modern chemical, physical testing, and analytical equipment with the talents of a highly trained laboratory staff . . . a procedure that has succeeded through the years in producing better products at lower costs and many new products of timely application to the needs of users of chemicals in industry.

Cyanamid research is devoted not only to matters of materials but also to methods and equipment as well. Cyanamid's chemists, technicians, and representatives, thoroughly trained in the fields they serve, are prepared to examine, test and counsel in relation to specific conditions in a manufacturer's own plant, and help him solve emergency and "chronic" production problems. In any matter relating to the selection and use of textile chemicals, Cyanamid is "on call" to assist you in the most practical and economical way. There is no obligation.

The Launderometer and Heat Curing Box for testing of resin applications are representative of the modern equipment in Cyanamid's Textile Chemicals Laboratory at Stamford.

SULPHONATED OILS; PENETRANTS; SOFTENERS; FINISHES; SIZING COMPOUNDS; DECERESOL* WETTING AGENTS

*REG. U. S. PAT. OFF.

A section of the Physical Testing Laboratory.

A corner of the Micro-Analytical Laboratory.

AMERICAN CYANAMID & CHEMICAL CORPORATION

A UNIT OF AMERICAN CYANAMID COMPANY

30 ROCKEFELLER PLAZA · NEW YORK, N. Y.

DISTRICT OFFICES: 3333 Wilkinson Boulevard, Charlotte, N. C.; 89 Broad St., Boston, Mass.; 401 N. Broad St., Philadelphia, Pa.; Russell & Bayard Streets, Baltimore, Md.; 850 Leader Building, Cleveland, Ohio; 20 N. Wacker Drive, Chicago, Illinois; Miller Road, Kalamazoo, Michigan; 931 Fisher Building, Detroit, Mich.; 900 Shell Building, St. Louis, Missouri; Azusa, California

HIGHLY CONCENTRATED POWDERED DESIZE (NEOZYME) TOPS IN EFFICIENCY AND ECONOMY

SO LITTLE GOES SO FAR!

You can cut desizing costs *permanently* with Neozyme. It is both *amylolytic* and *proteolytic*. Neozyme completely digests and removes starches, gums, gelatins and other sizing matter . . . insures your fabrics against faulty, uneven dyeing.

Readily soluble in water, Neozyme retains its efficiency over a long period of time. And because one pound of Neozyme goes *eight to nine times as far* as liquid desizing agents, it not only saves you money . . . but it saves storage space in your mill. FREE samples of this new enzymatic agent upon request. Or write us today for expert technical advice on your desizing problems—at no obligation to you.

FOR THE AVERAGE DESIZING BATH, USE:

1 lb. Neozyme to 100 gal. of water

Temperature: 125-130° F

Time: 30-45 Minutes

ROYCE CHEMICAL COMPANY

CARLTON HILL, NEW JERSEY

MANUFACTURERS OF SULPHONATED OILS INCLUDING VELV-O-RAY*, CASTROLITE*, AND HYDROSULPHITES INCLUDING PAROLITE*, VATROLITE*, DISCOLITE*

*Reg. U. S. Pat. Off.

M. A. Williamson, *Publisher* — Douglas G. Woolf, *Editor*

William B. Dall.....*Managing Editor*
Winn W. Chase.....*Technical Editor*
Earle Mauldin.....*Southern Editor*
Thomas O. Ott, Jr.....*Southern Editor*
H. S. Knowlton.....*New England Editor*
Harold E. Reed.....*Assistant Editor*
Paul Wooton.....*Washington Correspondent*
Cortland G. Smith.....*Art Director*
William Buxman.....***Manager***

On Leave with Government Services
W. G. Ashmore.....*Capt., Army QM*
G. B. M. Walker.....*Naval Training School*

Textile World

NEW YORK
ATLANTA

AUGUST 1942
Vol. 92 No. 8

BOSTON
GREENVILLE

A McGRAW-HILL PUBLICATION

Management

Let's Go! (Editorial) 49
The Editor Says 50
How Long Must We Wait? Our Nation Cries Out for Leadership . 51
Want Textile Industry Under PRP 54
Addenda to War Manual 55
British Concentration Plan 64
Group Coordination a Real Solution—Pool Strength and Experience 66
Textile Activity at New High 67
Internal Politics Among Workers Impairs Effectiveness 78
Philadelphia Association Holds Outing 83

Methods

Mildewproofing Military Fabrics; Phenyl Mercuric Acetate Effective 58
Fabrics for Military Use—Drills, Padding, 48 oz. Duck 63
Card-Room Maintenance in Wartime Conditions 68
Maintenance of Cotton Combers 69
Defects in Woven Fabrics Traceable to Weave Room 72
Defects in Knit Goods—Causes and Remedies 77
Laboratory Controlled Throwing of Rayon 80
Permanent Finishes Prove Useful in Wartime 82
Blending Dyed Fibers—From 10 Colors, 2000 Yarn Shades . . . 84
Preventing Neps in Army Twill 99
Hand-Loom Fabrics Duplicated on Power Machines 100
Loomfixers' Manual—Rayon and Silk 103
Fixing Hosiery Machines—Full-Fashioned 104
Fixing Hosiery Machines—Circular 105

Merchandising

At Army War Show, QM Exhibits Uniforms 52
Posters Encourage Civilian Conservation of Materials 62
Apparel Laces Aided by Lack of Imports and Style Favor . . . 70

Materials

"Get in the Scrap"—National Salvage Program an Opportunity . 61
British Standard Utility Fabrics 65
Fibers Grown in Western Hemisphere Replacing Those of Eastern 71
American Sericulture—Several Plans Under Way 83

Mill Engineering

Intra-Plant Transportation Systems Solve Problems 74
Textile Equipment News 85
Mill Maintenance Section 86

DEPARTMENTS

Textile Equipment News..... 85
News of the Month..... 106
New Publications..... 89
The Overseers' Corner..... 97
Questions and Answers..... 101
New Machinery and Processes..... 85
Textile Calendar..... 110
Leading Editorial..... 49
New Dyes and Chemicals..... 88
News of Suppliers..... 90
Free for the Asking..... 94
News About Men..... 124
Textile Mill News..... 138
Overseers' Practical Helps..... 98

FOR CONTENTS BY INDUSTRY BRANCHES, SEE NEXT PAGE

TEXTILE WORLD (formerly *Textile World Journal*) with which are combined *Textiles*, *Posselt's Textile Journal* and *Textile Advance News*. Published monthly. United States and Possessions and Latin American Republics, $1.50 a year; Canada and all other countries, $2, U. S. currency or 12 shillings. Single copy 25c. Annual index in "Textile World Yearbook & Catalog."

Of this issue, 14,440 copies were printed

Member of Audit Bureau of Circulations
Member of Associated Business Papers, Inc.

Contents copyrighted, 1942
by McGraw-Hill Publishing Co., Inc.
(All rights reserved)

McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York, N. Y.

JAMES H. McGRAW, *Founder and Honorary Chairman*

JAMES H. McGRAW, JR., *President* — HOWARD EHRLICH, *Executive Vice-President* — MASON BRITTON, *Vice-Chairman*

HENRY G. LORD, *Vice-President* — B. R. PUTNAM, *Treasurer* — J. A. GERARDI, *Secretary* — J. E. BLACKBURN, *Director of Circulation*

BRAGDON, LORD & NAGLE DIVISION

FRANK L. NAGLE, *Chairman* — HENRY G. LORD, *President*

Atlanta.....*1011 Rhodes-Haverty Building*
Boston.....*1427 Statler Building*
Chicago.....*520 North Michigan Avenue*
Greenville, S. C.....*310 Woodside Building*
Philadelphia.....*16 South Broad Street*
Washington.....*National Press Building*

IN THIS ISSUE

CONTENTS BY INDUSTRY BRANCHES

TEXTILES IN THE WAR

Let's Go! (Editorial) ... 49
Our Nation, in Peril, Cries Out for Leadership Toward Positive Victory ... 51
At Army War Show, QM Exhibits Superiority of Uniforms ... 52
Want Textile Industry Under PRP ... 54
Addenda to Textile War Manual ... 55
Priority Forms Still in Force ... 57
Mildewproofing Military Fabrics ... 58
"Get in the Scrap"—National Salvage Program Offers Opportunity for Crack at Axis ... 61
Posters Urge Conservation by Civilians ... 62
Fabrics for Military Purposes ... 63
British Concentration Plan ... 64
British Standard Utility Cloths ... 65
Sericulture in U. S. May Help War Effort ... 83
Air-Raid Safety Blanket ... 85
Preventing Neps in Army Twill ... 99
Parachute Cloth ... 101

GENERAL

Textile Activity for Half-Year at New High ... 67
Apparel Laces Boom Through Lack of Imports and Favorable Turn in Style ... 70
New Sources of Vegetable Fibers in This Hemisphere ... 71
Defects in Woven Fabrics Traceable to Weave Room ... 72
Intra-Plant Transportation Systems Solve Problems ... 74
Politics and Cliques Among Workers Impair Effectiveness ... 78
Philadelphia Manufacturers Hold Outing ... 83
Water Control for Boilers ... 85
Mill Maintenance Section ... 86
Protecting Rubber Belts from Oil ... 87
Check Chart for Motor Maintenance ... 87
Learners from the Mill Community (Pete & Bill) ... 97

COTTON

Military Fabrics: Drills, Padding, 48-oz. Duck ... 63
British Cotton Utility Cloths ... 65
Card-Room Maintenance ... 68
Maintenance of Combers ... 69
Apparel Laces Boom ... 70
Defects in Woven Fabrics ... 72
Roller Cover ... 85
Mildewproofing Agent ... 88
Rack for Slasher Pressure Rolls ... 93
Preventing Neps in Army Twill ... 99
Correct Sizing in Card Room ... 102

WOOL

QM Exhibit Features Wool Uniform Fabrics ... 52
Blending Dyed Fibers—2000 Shades from 10 Original Colors ... 84
Interesting Design Possibilities in Hand Loom Goods Reproduced on Power Machines ... 100
Woolen Blanket Construction ... 101

RAYON AND SILK

Rayon Fabrics Among British Utility Cloths ... 65
Laboratory Controlled Throwing Gives Quality Control of Rayon Yarn ... 80
Sericulture May Aid War Effort ... 83
Coner Attachment ... 85
Lubrication of Twister Worm-Gear Unit ... 86
Makes Slasher Quetsch Rolls Last Longer ... 87
Parachute Cloth ... 101
Warp Streaks in Spun-Rayon Fabrics ... 102
Loomfixers' Manual—Rayon and Silk ... 103

KNITTING

Group Cooperation—Five Hosiery Mills Pool Experience and Gain Strength ... 66
Causes and Remedies for Defects in Circular-Knit Fabrics ... 77
High-Speed Double Tricot Machines ... 85
Finish for Cotton Lace and Mesh Hosiery ... 88
Cause of Holes in Rayon Hosiery ... 101
Fixing Hosiery Machines—Full-Fashioned ... 101
Fixing Hosiery Machines—Circular ... 105

PROCESSING

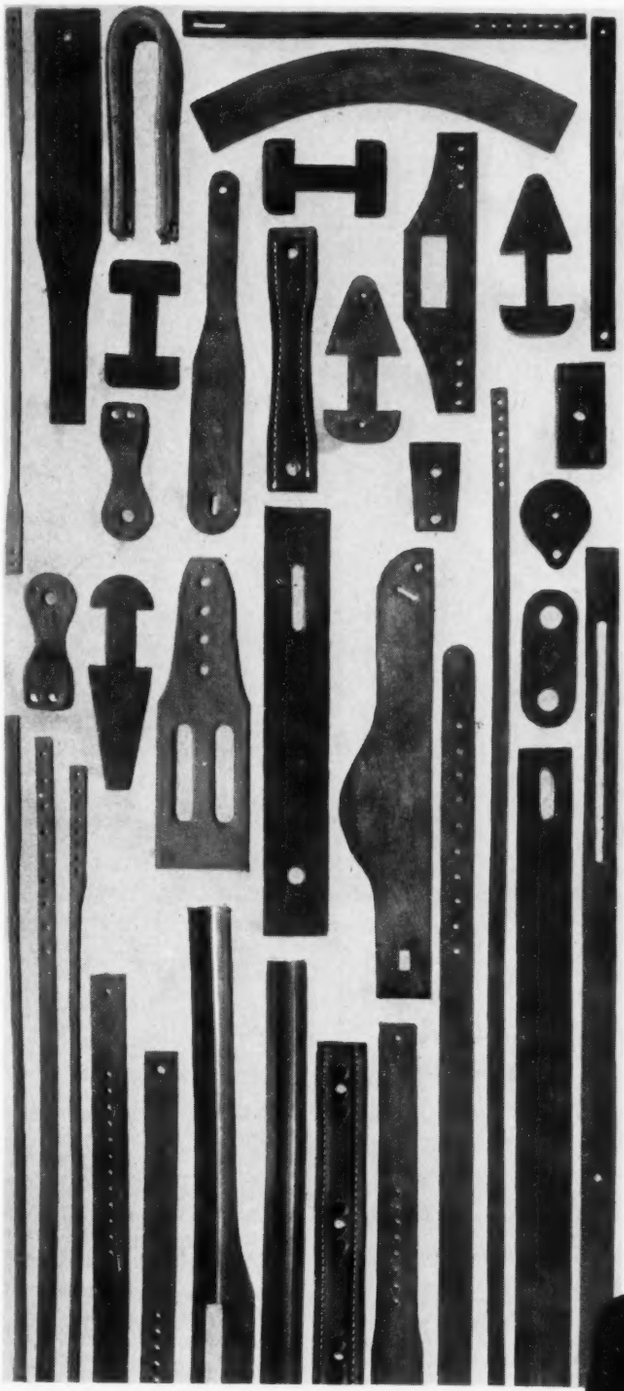
Mildewproofing Army Fabrics ... 58
Permanent Finishes Useful in Military and Civilian Goods ... 82
Conserve Your Stainless-Steel Equipment ... 87
Water Repellent ... 88
Mildewproofing Agent ... 88

IN THE NEXT

THE 18TH ANNUAL RAYON AND SYNTHETIC FIBERS SECTION is the feature of the September issue of TEXTILE WORLD. Synthetics have lately been doing a double job—serving in many new-found uses in the military sphere and helping the civilian population avoid difficulties through scarcities among the natural fibers. This accomplishment, and other achievements, warrants the slogan: "Synthetics—Versatile for Victory!"

In the special rayon section will be a survey of likely fiber requirements in the next year, available production, allocation to various uses, etc. There will be technical articles on new methods of handling synthetics in the new fields in which they are being introduced, such as handling staple on the worsted system, making full-fashioned rayon hosiery, etc.

The regular part of the September issue will continue our intensive Washington coverage, with its news stories and its addenda to the Textile War Manual. There will be further articles on proper mill maintenance under war-time conditions.



for PRODUCTION *without Interruption!*

READILY AVAILABLE • LONGER LIVED

You get smoother, better performance and steadier production from textile straps made of tough TANNATE leather. "Costs down!" "Production up!" "Profits increased!" . . . are but a few words of praise from mills which have learned from experience what TANNATE straps can do.

Enquire about them! Try them! TANNATE textile straps may mean greater output at lower cost for you, too!

(Yes, they're made from the same select hides, given the same special tannage that has made TANNATE leather belting famous for low cost, high efficiency power transmission.)

J. E. RHOADS & SONS

35 North 6th Street, Phila., Penna.

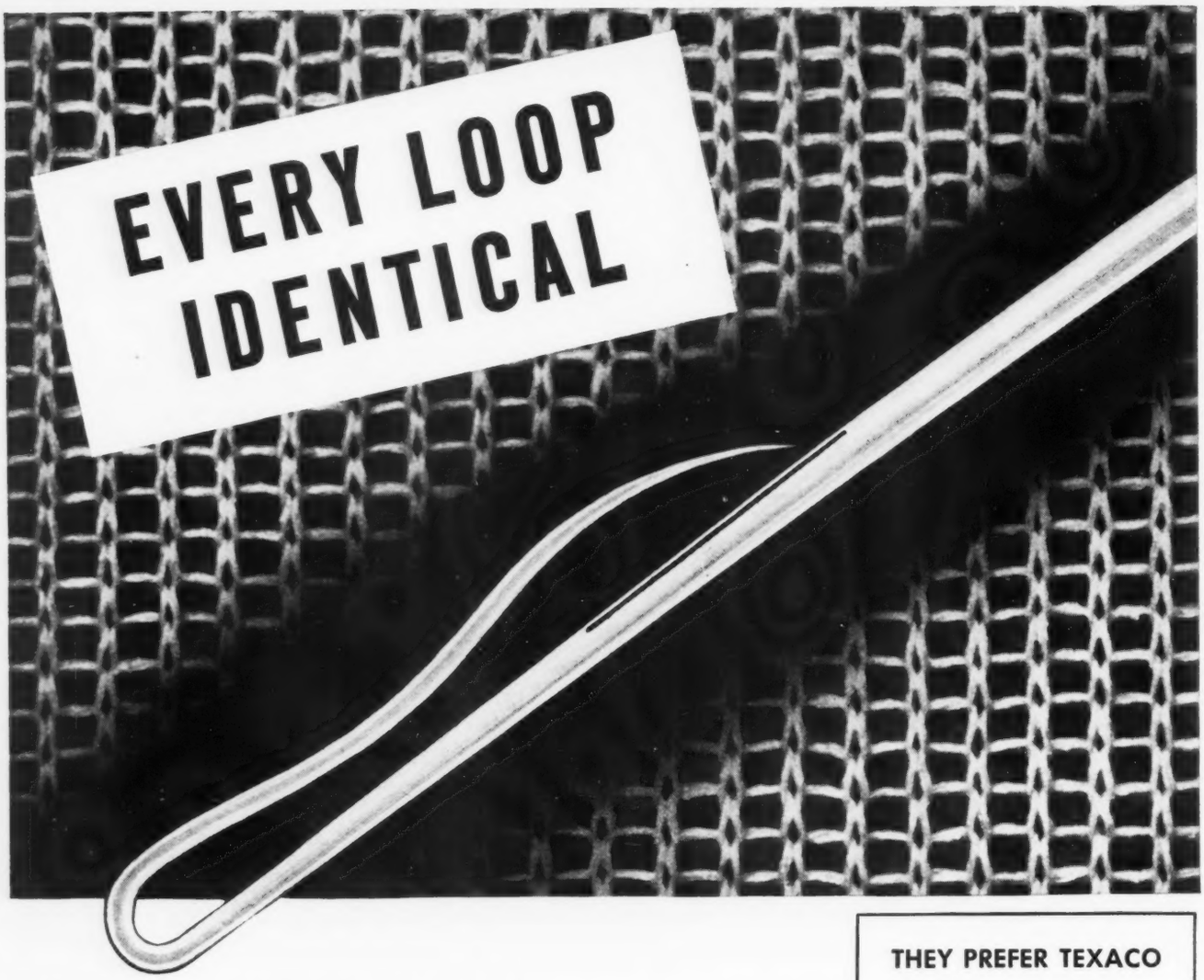
NEW YORK • CHICAGO • ATLANTA • CLEVELAND

JACK STRAPS • HARNESS STRAPS
BUMPER STRAPS • CHECK STRAPS
LUG STRAPS • LOOM STRAPS •
PICKER STRAPS • BINDER STRAPS
— and others

RHOADS *Established 1702*

Tannate

SPECIAL TEXTILE STRAPS



YOUR knitting needles will stay free from rust . . . forming identical loops, course after course . . . when you use *Texaco White Needle Oil B.*

Texaco White Needle Oil B provides positive protection against moist air and wetted yarn. It resists oxidation and gum formation, washes out easily, prevents stock spoilage.

The outstanding performance that has made Texaco preferred in the fields listed in the panel has made it preferred by prominent mills in every textile area.

These Texaco users enjoy many benefits that can also be yours. A Texaco Lubrication Engineer will gladly cooperate . . . just phone the nearest of more than 2300 Texaco distribution points in the 48 States, or write: The Texas Company, 135 East 42nd Street, New York, N. Y.

Care for your Car ..for your Country

THEY PREFER TEXACO

★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

★ More locomotives and cars in the U. S. are lubricated with Texaco than with any other brand.

★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

★ More buses, more bus lines and more bus-miles are lubricated with Texaco than with any other brand.

STOPS RUST. *Texaco Cepheus Oil C* keeps oscillating and rotary bearings free from reddish rust deposits . . . prevents stock spoilage . . . relieves drag and sluggish motion.

Tune in the TEXACO STAR THEATRE every Sunday night—CBS

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

Machine Tool Builders . . .

the men behind our war production achievement

It took Germany six years to get ready for this war, and Japan even longer. But in less than twenty-four months American industry, starting from scratch, has caught up with and surpassed the war production of the Axis.

When France fell in June, 1940, we unfortunately had no gigantic munitions makers, like the Krupp or Skoda works, to turn to. We had been devoting our attention to making refrigerators and vacuum cleaners and motor cars and lawn mowers. Ordnance output for our Army was a mere million dollars a month. A sad commentary on our National state of mind and our lack of responsible political leadership.

Yet during June of this year, our industries, transformed from peacetime pursuits, produced close to a thousand times that amount. A thousand-fold increase in two years!

The same spectacular gains hold throughout our war program—for ships, planes, guns, tanks, a thousand items. We are well on our way toward the 60,000 planes, 20,000 anti-aircraft guns, 45,000 tanks and 8,000,000 tons of shipping that the President asked us to produce in 1942, and toward the much larger production projected for the year 1943.

We are well on our way thanks to a number of factors, one of the most vital being the extraordinary job done by the machine tool industry. For it has equipped America's metal-working shops with the tools they need to turn out the vast quantities of war weapons.

The machine tool industry's importance springs from the fact that almost every metal product, from mechanical pencils to giant guns, is made with machine tools. They transform pieces of steel into parts for automobiles, farm implements and radios—and for airplanes, guns and tanks.

The Garand rifle, highly praised by General MacArthur at Bataan, has 72 metal parts requiring 1040 separate cutting operations on machine tools. A 40-millimeter gun mount is made up of 1500 separate parts, built to the tolerance of a Swiss watch. Each part must be machined, not once, but several times.

No wonder that when the American defense program was undertaken two summers ago, the American machine tool industry was the first to be called into service. Ninety-five thousand machines were wanted as quickly as possible from 250 builders who in peacetime had produced some 25,000 machines a year.

But the demand did not stop there. The Army, the Navy and the Air Force kept asking for more as the war production program was expanded again and again. Nor was that all. The entire anti-Axis world besieged Washington with urgent requests—from London to Moscow, from Ottawa to Chungking.

To a man the machine tool builders responded. New factories and additions to old plants were built, with deliberate disregard of the prospect that all these sharply expanded facilities could not be used after the war.

To increase output from existing plants practically every company went to two long shifts or three short ones. The industry's work-week was greatly extended. From the beginning of our effort, it has been the longest of any industry.

Working forces were enlarged from 40,000 to 110,000, and this latter figure does not include tens of thousands of employees with sub-contracting firms. Though machine tool building requires a higher degree of individual skill than most products, "learner" courses have been set up to train men quickly. Over 15,000 men and women now are in training.

The machine tool builders were among the first to go in for sub-contracting. They have farmed out parts, subassemblies and complete

machines right and left. To meet their needs, for example, repair shops of carpet mills are making milling machines, a laundry machinery company is producing radial drills, and an automobile body builder is making planers and boring mills.

Machine tool manufacturers quickly shelved peacetime practices to concentrate manufacture on the sizes and types of machines critically needed for the war program. They adopted mass production methods wherever possible, although machine tools are essentially a tailor-made product. They sent their sales engineers, as did machine tool dealers also, to hundreds of munitions makers with invaluable advice as to tooling up most efficiently for their particular jobs.

The swift action taken by the machine tool builders shows what private enterprise can do to meet a national emergency. They were the first to institute a voluntary system of priorities.

All of this involved an almost explosive expansion of the industry. Machine tool builders produced an average of only 7,500 machines a year from 1931 to 1934. In an ordinary year, output totals 25,000 machines. But in 1940, it rose to 112,500, and in 1941 to 187,500.

The 95,000 machine tools wanted for the original defense program were built and delivered within eight months.

Today more than 1,000 machine tools are being shipped to war factories every twenty-four hours, and for seven days a week. Each month's output exceeds that of an entire normal peacetime year and is five times that of the depression year of 1932. And each succeeding month is shattering all previous records.

It is this amazing performance that led Under Secretary of War Robert P. Patterson to declare that "machine tools are the foundation on which our production structure is built. American machine tool men are doing a stupendous job. Machine tools are now being turned out at a rate of $1,380,000,000 a year. Machine tool designers have worked to improve tools so much that machine tool effectiveness today is one-third to one-half greater than it was in 1930. Our production today is 16 times what it was—in capacity to cut metal—at the peak of the World War."

The results of this performance by this key industry, so satisfying to the Nation, do not spring wholly from the numbers of machine tools produced. They stem also from their improved quality and greater productivity.

Today's warfare differs radically from that of 1917-1918. It calls for mechanized weapons so complicated in design and built to such a fine degree of accuracy that they are beyond comparison with the weapons of a generation ago.

Machine tools, completely redesigned during the depression years, are meeting these new and exacting requirements. In addition, thousands of machine tools of special design, without counterpart in peacetime work, have been built.

The record of the war industries most directly dependent on the machine tool industry speaks for itself. One tank manufacturer alone is producing more than thirty big tanks a day. A midwestern plant is completing 35 anti-aircraft guns a day, round the clock without interruption. A tank engine factory, tooled up to make 650 units a month, is actually building over 1500 a month. Demolition bombs, destined for Berlin and Tokyo, are being made by the tens of thousands every month. Machine guns are being produced at a rate of 50,000 a month.

These manufacturers, all machine tool users, are far in advance of the timetables set for them.

All this is good news for the American people and bad news for the Axis. It is proof that American industry, with each individual and specialized industry doing its part, is living up to the faith put in it by the American people.

But it is more than that, too. It is a guarantee of our confidence in the peacetime future of American industry and of the free enterprise system under which this miracle has been wrought.

Perhaps more than anything else, the foundation of that confidence must be faith in the farsightedness, the ingenuity, the engineering and designing skill, and the managerial know-how of the machine tool makers.

On them we depend for the most essential tools of the post-war production economy. Without them, our vision of better living standards and full employment through more efficient production and distribution can never be more than a vision.

What they have done as the toolmakers for war is proof of what they can do as the toolmakers of peace. How they have done it as free men is a demonstration of what free men will do.

James H. McGraw, Jr.

President, McGraw-Hill Publishing Company, Inc.

This message is appearing in all McGraw-Hill industrial and business publications, reaching over a million readers.

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Let's Go!

IN MAY we wrote a piece on this page entitled "Let's Start from Scratch NOW" on the thesis that we should forget recriminations for all the things we did or didn't do before or after Pearl Harbor, and start immediately to do just what it takes to win the war, no matter who gets hurt in the process. Letters we received from our readers indicated that we had expressed a view shared by many.

And yet, since that time, practically none of the "must" jobs have been started. Three more precious months have been lost. How many more months can we lose, and yet win the war? And the stark fact protrudes, in brutal realism, that we *may* lose this war. That possibility, it seems to this writer, is the missing link in our national psychological attitude. The American people haven't been *made* to face it; the powers that be have done all they could, by way of playing up our minor achievements, to dim-out the major advances which the enemy has made on *all* fronts.

SO WHAT? Just this: Once again let's forget the past. Let's put those three additional lost months in the limbo to which we have consigned the 18 lost months between the fall of France and Pearl Harbor, and the other five months since Pearl Harbor. Let's forget that we could now be in a position to win the war, hands down, if we had utilized that total of 26 months in an all-out effort. Let's figure what we are going to do with the next 26 months. (And, parenthetically, it's going to take at least that long to win this war, if we win it at all—short-war opium-smokers to the contrary notwithstanding.)

Let's start with this next month, and do quickly all that we can possibly do in those 30 days to begin to get ready to win. Then let's take the next month, and then the next, and the next in turn—and lose not one single month more, nor a single day more. Let's close the chapter of lost months. If we don't, we too are lost with the months.

SPECIFICALLY, what should we do? Here are a few starters:

1. Put nation-wide gas rationing into effect at once, to save rubber.

2. Put into effect a national sales-tax, to whatever per cent is necessary to meet the Treasury's estimate of needed revenue, after all other forms of taxation have been pushed just short of the killing-the-goose-that-laid-the-golden-egg limit.

3. Draft the 18-to-20-year-old group, not for the battle-front, but for training as reserve power if and when the war lasts more than another two years.

4. Start rationing, now, all commodities and products which have any prospect of scarcity, however remote, which might eventually impede the national war effort.

5. Put into effect forced-savings of 10% of all incomes in war-bond purchases.

6. Put into effect a withholding tax which will not only withdraw from circulation money with inflationary possibilities, but also give individuals a chance to meet the necessarily brutal tax-programs of 1943 and 1944.

7. Put out of circulation every man or woman who has belonged to subversive groups in the past.

8. Effect, not a dim-out, but a black-out of both coasts, no matter what it does to the business of hot-dog stands, roller-coasters, and juke-joints.

9. Put civilian defense on a really adequate basis; pay salaries to capable leaders; place the control under the Army and the Navy.

10. Release all military-age officers and civilians from desks in Washington for duty in the field, and replace them with men who are too old to fight but not too old to keep the swivel-chairs warm.

11. Put into effect a publicity program which would tell the people about their dire peril, and skip the ballyhoo which necessitates the return of heroes from their stations of duty to ticker-tape parades.

THAT'S ABOUT ENOUGH for the first month—this next month. If we get these things started on the home-front, we would begin to get ready to win. And we *could* get them all started, this month.

What are we waiting on? Are we waiting on bombs from Hitler? Or are we waiting on Congress? Or is Congress waiting on us?

Whatever the answer, the cold, hard fact remains that we are losing this war, and that if we keep on losing it, no possession which any man, woman or child in this country now holds will be worth a damn.

Let's go!

Douglas G. Woolf

THE EDITOR SAYS

Pitfalls in Post-War Planning

POST-WAR PLANNING, now, is suspect. It implies that the planners for the peace think the victory is in the bag. Any such implication is dangerous. The slightest relaxation in our all-out war effort which might result from post-war planning would be more expensive in blood and starvation and terror than any unplanned days after Hitler is beaten.

Consequently, unless we as a nation are intelligent enough to fight the war and plan for the peace simultaneously, the only "out" is to forget the latter and concentrate on the former. But if we can handle both jobs, then much can be gained now. In that supposition, we suggest a few lines of thought.

First and foremost, the glib talk of unlimited world prosperity after the war should be curtailed until its premises are examined.

Such talk is based on these theses: (1) We shall have a production-machine geared up to a tempo hitherto unknown to mankind; (2) we shall have a world market denuded by war and eager to absorb everything that can be produced. Both premises are true.

But let us not forget that they were both true after the last world war; that they resulted in our production and speculation binge; that they blew up in the face of world depression, very shortly after the famous "'two cars in every garage and a chicken in every pot" prediction; that from that point on, the world moved rapidly through starvation in the midst of plenty to the breeding-ground of Hitlerism and hate.

True, again, we do not *have* to follow the last post-war pattern. But unless we examine that pattern, and find out exactly what made Hitler click, we shall not be able to cope with the post-war problem of this far greater world catastrophe.

When we win this war, we shall have a national debt which will make past obligations look like small change. We shall have national dislocations among countries of the world which will make the altered map of Europe after the last war look like stability. We shall have a clash of ideologies which will make the problem of Versailles look like a simple issue. We shall have a re-conversion job in our own industries, and a re-location of workers, which will make the aftermath of the last war seem trivial.

Against those facts, there is no formula, such as unlimited production at low cost, which will win the peace.

The answer is obscure. This writer doesn't know it. No man knows it. All we can do is to start from that premise and try to find the answer.

The solution will take more than slogans. It will take more guts to win the peace than it will to win the war. And unwarranted optimism is at least as dangerous to the latter course as it is to the former.

What's Ahead in Textiles?

Here are the answers, as we see them from here:

1. The profitable period has passed.
2. The record-breaking production curve will flatten out during the balance of the year, and start downward.
3. Plants on essential war and industrial fabrics will continue to be busy.
4. Plants on non-essential fabrics will find the picking harder as the months go on.
5. The tax-burden of 1943 and 1944 will threaten the solvency of many companies. That of 1942 is already apparent in financial statements for the first half, showing much higher volume than 1941, but decreased net after taxes.
6. Recent wage-increases are an incongruity: a hangover from lush "'defense" days into the era of a nation at war.
7. Concentration of production in "nucleus" plants is a possibility. (See article on page 64.)
8. From now on, the going will be tough. But war is tough. That is one lesson which is still to be learned by too large a majority of the citizenry.

Despite these bearish prospects, which we should all face realistically, there is no reason for defeatism in textiles. There will always be a demand for the products of this basic industry. Today's crisis is a challenge to, rather than a curfew for, the textile industry. It will move on to eventually higher ground to the extent, and at the rate, it meets that challenge.

WageDemands,Rulings,and Increases—See page 122

Home to OPA Roost

Leon Henderson's chickens have come home to roost. The academic and arrogant attitude which pervaded OPA during its policy-forming days accounts for the slap-in-the-face which he has received from Congress.

In those early days, control over wages and farm prices was unnecessary in the war against inflation, to hear Henderson and Hamm and Galbraith tell it. Demands for wage increases would be "automatically checked" by control of prices. The farm price schedule was somebody else's headache. This writer heard both these naive statements repeatedly made by OPA big-shots, and those of us who questioned them were treated scornfully as obstructionists.

Today, however, Leon has buckled on the armor of a Sir Galahad in a lone, brave fight against the inflationary tactics of labor and farm blocs. When you add to that his present status as the foe of political patronage, you get a pretty picture of a defender of the right.

It happens that this writer hoped OPA would get its full appropriation, as there is no other prospect of anti-inflation on the horizon. But he also hopes that the memory of past mistakes, including not only the above basic fallacies, but also the latest job of violating Government contracts through the imposition of ceilings on business already accepted by the QM, will make Mr. Henderson and his associates wiser, if not sadder men.

That they can be wiser is a fact, made evident by the record. That they can be sadder is a matter of opinion.

Capt. Ellison A. Smyth

The loss of Capt. Ellison A. Smyth is a very personal one to his many friends and admirers. But, in another sense, it seems as if an institution, as well as a man, has passed. For Capt. Smyth *was* an institution in the cotton-textile industry. He was a link to a past which seems particularly remote in these bitter days. But he was also very much a part of the present because, although old in years, he was young in interest and attitude. Among the many things hard to contemplate in the world today is the thought of a textile industry without Captain Smyth.

How Long Must We Wait? How Long?

Our nation, in dire peril, cries out for leadership toward positive victory

By DOUGLAS G. WOOLF

WASHINGTON, the nerve-center of our national war-effort and also the United Nations, is singularly lacking in both leadership and unity at this moment when the need for both factors is more urgent than at any other time in the nation's and the world's history.

This writer records that fact with great reluctance, because he shares with all patriotic citizens the conviction that criticism in a time of grave crisis is a freedom which must be used sparingly, and only for constructive purposes. However there comes a time when silence is cowardly, and dangerous. That time came, and passed unheeded, in France. It came, and was heeded, in England before it was too late. That time has come today in the United States, when it is not yet too late but when the "too late" period looms ahead with its sinister and almost unbelievable implications. Upon our national attitude during the balance of this year depends certainly the length of the war, and probably its outcome.

In such a squeeze, it is fair to examine that national attitude. Briefly and inelegantly, it is lousy. As a nation, we are far from achieving the spirit which will make victory certain and defeat impossible.

And, as a result of this writer's contacts with all the major agencies of Government concerned in the war effort, he is convinced that our national leadership has bogged down. This thought leads inescapably to the President—the head-man in those agencies as well as the Commander-in-chief of our Army and Navy. That the same driving inspiration which came from that source before Pearl Harbor and in the early months of the war has been lessened is too evident to many careful observers in Washington. Why that is so, this writer does not know. The President's meddling with New York State politics, for days at a time, was a symptom rather than a cause.

But the lack of leadership extends beyond the office of the Chief Executive. It includes, primarily, the direction of the War Department and the Navy Department. Anyone who is content with the present Secretaries of those two Departments is easily satisfied. A new deal in both would seem to be demanded. The same comment can be applied to the Department of Labor and the Department of Commerce—both less directly concerned with the war effort than are Army and Navy, but certainly strategic points in the conduct of our essential civilian economy. If the direction of these four Departments is less than adequate—as this writer is convinced it is—then a questioning of our national leadership would seem to be something other than carping criticism.

Add to the above the fact that radio listeners were forced to read the editorial comments on Secretary Hull's address to get its real portent, because of the delivery of the speech itself. Grand old man that he is, this is not a war where grand old men win. If you doubt that, look at Vichy.

This is a tough war—a war of toughness. Stimson and Knox and Jesse Jones, among others, have no place in it as leaders. We could go along a while more with those men, and with the other incompetents in high places, but in the interim the war could be lost. If ever the President's campaign-cry of a New Deal was needed, it is needed this month, this week, today. Here is a sobering thought: Before we get through, we *must* have new and aggressive and virile leaders in *all* branches of the Government. Must we wait as France did, until she fell, or as England did, until Churchill picked up the pieces just short of too late? Must we wait?

The only person who has the answer to that question is President Roosevelt. And the finding of that answer seems somewhat more important than the answer to the question whether Mead or Bennett is the Democratic nominee for the Governor of New York.

All the above observation is objective, not political. This writer has supported the President's foreign policy from the early beginnings of our defense program to date. He will continue to support it, in so far as it meets the needs of a nation in dire peril.

AND WHAT is that peril? It is many-sided, but there are three primary danger-points:

1. *Russia:* For 14 months Russia has been holding off the enemy, *our* enemy, practically single-handed. In those 14 months, much less than the utmost has been done by the other United Nations to keep Russia in the fight. As we write these lines, Russia's participation is threatened as never before.

2. *Japan:* America's ability to defend her own shores is now at an all-time low ebb. For months, Japan has had sizeable occupation forces on the Aleutians, a threat not only to our mainland but to the prospect of our help to Russia in Siberia. It is claimed that the fog has stopped us. Japan met the same fog. Meanwhile we are dished out merely re-warmed victuals in the form of recurring stories of great victories at Midway, and Wake, and the Coral Sea—all purely defensive victories. The offense is still with Japan. How long?

3. *Shipping Losses:* The greatest threat to our security as a nation is the continuing success of Axis submarines. Shipping losses have exceeded the gains through new construction since Pearl Harbor. Stories appear in the papers that we are getting "on top" of the U-boat menace. And yet in each issue of the same papers appear official reports of the sinking of three or four more ships, with at least part of their crews and with vital war material. How long do we have to wait before we can beat this threat to everything we hold dear? How long?

SUMMING UP this writer's impression of Washington, it seems that the only zone in which we have met the enemy is in production, via the War Production Board. And yet that board has borne most of the criticism from agencies like the Truman Committee. Most other branches of Government—the Army, the Navy, the Maritime Commission, et al—have fallen down on their jobs.

Must we wait for effective leadership in other zones until we are beaten, like France, or at the best isolated from a world controlled by Hitler and Hirohito? How long must we wait? How long?

Mannikins of U. S. Army troops posed under actual conditions are viewed by Lt. Col. A. G. Stevens, director of procurements and planning, N. Y. district. Left to right: uniform of ski troop, uniform for winter service of infantry, and regulation infantry uniform.

At Army War Show

Quartermaster Corps exhibit illustrates superiority of uniforms of U. S. soldiers

Comparison of the modern American fighting man's equipment with that of a soldier of the Army of 1775.

WAR in its spectacular phases was viewed by the public that attended the Army War Show which opened in Baltimore, Md., June 12, and is now on an extended 4½ month tour of the country.

Tanks, flame-throwers, anti-aircraft artillery, jeeps, and fully motorized equipment manned by a staff of 1,200 men dramatically demonstrate the deadly efficiency of the "finest Army in the world."

Exhibit of the Quartermasters Corps was accepted on behalf of the Army by Gen. E. B. Gregory, and presented by Col. C. F. H. Johnson, of Botany Worsted Mills, on behalf of his company and the American Wool Council.

Intended to demonstrate that the American Army is the best clothed in the world, the exhibit is housed in a QM assembly tent 150 ft. long and 40 ft. wide. Over 50 ft. of dioramas flank in a semi-circle a central stage upon which are flashed pictures depicting various activities of the Army. Animated with special lighting effects, the dioramas portray dramatically scenes tracing the manufacture of wool army fabrics from the sheep. A minimum of 200 lb. of wool is required by each soldier during his first year of service, and under combat conditions a minimum of 45 lb. additional is required. Also illustrated are action scenes portraying clothing equipment used by different branches of the services, including infantry, the air corps, parachute troops, tank troops, and ski and para-ski troops.

A series of counters beneath the dioramas contain displays of the various articles of clothing supplied by QM and used by various branches of the services. Complete uniform equipment of an infantryman consists of some 60 articles valued at Army wholesale cost of $200.

The exhibit of cotton products presented by the Cotton-Textile Institute joins the War Show at Detroit.

Military attachés of various nations at the QM exhibit viewing the display of uniform equipment of an infantry private. Front cover of this issue shows dioramas depicting manufacture of wool fabrics for the Army.

All photos courtesy of Photo Section, Phila. QM Depot

Col. C. F. H. Johnson, president of Botany Worsted Mills and recently appointed adviser to Major General Irving J. Phillipson, Director of Army Emergency Relief, is shown with Brigadier General C. L. Corbin, Director Procurement Service of QMC, and Major General Phillipson.

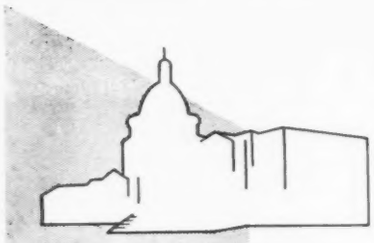
Worsinger Photo

Cotton-Textile Institute display added to the QM exhibit of the Army Show dramatizes the myriad uses made by the Army of cotton for clothing and equipment. A section of the display is shown above.

Dioramas depicting clothing equipment required for the air corps in action, that used by the ski troops, and a soldier outfitted for tropical warfare as encountered in Bataan. A mannikin dressed in the regulation uniform of the ski troops is shown.

Want Textile Industry Under PRP

Even if below minimum, mill may well file PD-25A—Wool growers want to sell



McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, *Chief Correspondent*
Blaine Stubblefield — Robert Colborn
Carter Field — Irvin Foos — M. G Maury
Dorsey Adams — George E Doying, Jr
J. C. Stark — Richard K LaBan
Malcolm Hobbs — Hunter Snead
E. H Martin — Malcolm Burton

By BLAINE STUBBLEFIELD

MOST IMPORTANT NEWS of recent weeks is a sort of unofficial shift of the textile industry to the Production Requirements Plan, under which producers apply for supplies three months ahead, calculated on the basis of the last quarter. PRP is rapidly supplanting preference ratings throughout the war production system.

Every producer, under Priorities Regulation No. 11, in all lines both civil and military, if he uses $5000 worth or more of metal in a three-month period, is required to apply for it under PRP on Form PD-25A.

But there is no rule against *any* producer, no matter how small his consumption, making application under PRP. This includes the textile industry. In case of non-mandatory applicants, that is, those using less than $5000 worth of supplies a quarter, application for all sorts of requirements, whether made of metal or not, is authorized.

There is no official order concerning the textile industry and PRP, but TEXTILE WORLD has been assured by WPB officials that textile mills are now welcome under the PRP program, are urged to come in. Producers of chemicals for the textile industry also are invited in.

Advantages to the textile mill are: You place your application for supplies on a three-month basis instead of a rather uncertain monthly basis using preference certificates. Reasonable inventory against breakdowns is allowed.

The War Production Board likes PRP because the applications form a record of the activities of the applicant company. If you are a PRP applicant, the Board actually sets up an account for your firm, and knows just what you are doing. It must be understood, however, that PRP does not guarantee to deliver the materials you apply for. PRP is not an allocation plan, and even if it were, allocation can only divide up what material there is available. A part of Form PD-25A is reproduced below.

Attach a catalogue or other descriptive literature, if not now on file.

DO NOT USE

Form PD-25A (7-6-42)

UNITED STATES OF AMERICA
WAR PRODUCTION BOARD
WASHINGTON, D. C.

APPLICATION FOR PRIORITY ASSISTANCE UNDER PRODUCTION REQUIREMENTS PLAN
For Calendar Quarter October-December 1942
Submit six copies
Read instructions in Section A carefully before filling out Form

PRIO
NO.
CODED
EDITED
TAB

SERIAL NO. | NAME AND ADDRESS OF COMPANY

PLANT TO WHICH THIS REPORT APPLIES | LOCATION OF PLANT (Street and number, city, State)

IF ENTIRE PLANT IS NOT COVERED BY THIS REPORT, STATE DEPARTMENT OR OPERATING UNIT COVERED

SECTION B, *Part 1*—**Actual Shipments:** Show below the number of units and dollar volume of shipments (including transfers to other divisions, departments, or plants) of each of the classes of products shown in column (1). Please read the instructions in Section A for guidance in grouping the products you manufacture. Entries must appear in columns (3)–(7) and (9)–(10). Where the answer is None enter the word "None."

DO NOT USE	DESCRIPTION OF CLASSES OF PRODUCTS	DO NOT USE	ACTUAL SHIPMENTS DURING CALENDAR QUARTER APRIL-JUNE 1942 — TOTAL DOLLAR VALUE (OMIT CENTS) ANALYZED BY PREFERENCE RATINGS								
	(1)	(2)	Total (3)	Allocated or specifically directed (4)	AA (5)	A-1-a (6)	A-1-b through A-1-k (7)	DO NOT USE (8)	A-2 through A-10 (9)	Other and unrated (10)	DO NOT USE (11)

After four 10x16 in. pages of instructions, PD-25A continues as above

Also, in relation to priorities, you've probably been having trouble with your decimal symbols required under the Allocation Classification system. The writer went into a huddle with WPB about this, and found that the symbol system as it applies to the textile industry is admittedly badly confused. Only two points can be made that may help. If you are a textile producer, your orders will be symboled 8.9. If you are processing textiles, your problem is pretty complicated. But we did find that WPB is about to issue a clarification that will set you right.

AMONG OTHER NEW DEVELOPMENTS in Washington is the wool growers' demand that the Government buy their entire clip. WPB would prefer that a loan be made to growers which would fix a floor under their prices. But the growers want to sell their whole crop to the Government, because the U. S. has bought wool from Australia and several Latin American countries. A compromise based on early large cloth orders which will absorb the rest of the clip is in the making.

Two other things many members of the textile industry wanted which they didn't get. One was revision of the Office of Price Administration's Order 157, governing values of goods sold to the military. Wool goods manufacturers, who were hardest hit, but cotton manufacturers also, contended that this order constituted a violation of Federal contract. But OPA answered that winning the war requires the repudiation of a great many rights. If order 157 is wrong, then the whole price control program, enacted by Congress is wrong, they said. An amendment to 157 exempts emergency purchases; otherwise the order stands as is. OPA officials tell the writer that complaints have all but stopped.

Cotton manufacturers wanted an adjustment of the cotton goods ceilings which are based on 20.37c cotton. Cotton prices went up to within 42 points of the ceiling as a result of farm bloc action in Congress, and the cotton processors believed their margin would be wiped out. OPA says no adjustment is contemplated.

Addenda to Textile War Manual

PRIORITIES AND ALLOCATIONS—AMENDMENTS BY WPB

Bleaching Powder—To insure adequate supplies of high-test calcium hypochlorite and chloride of lime, commonly known as bleaching powder, for civilian defense gas decontamination and for essential uses of Army and Navy, the entire supply was put under complete allocation control by DIO. In amendment to the Chlorine Order M-19, high-test calcium hypochlorite and chloride of lime are specifically exempted. Concurrently, Supplementary Order M-19-a was issued, which states that on and after July 6, no high-test calcium hypochlorite or chloride of lime can be delivered by a producer without specific authorization by the DIO. During July, and prior to the beginning of each month thereafter, the Director will authorize each producer to make certain shipments of these chemicals during the following month.

Burlap—The Textile Branch of WPB explained July 11 how a person owning frozen stocks of burlap may sell or use such burlap under Conserviation Order M-47. 1. He may sell it to Army, Navy or other, specified agencies without WPB authorization. Such an order need not carry a preference rating. 2. He may use it to fill orders rated A-1-c or higher for burlap, provided he is authorized to do so by WPB. In applying for such authorization, the burlap owner should state the purpose, the person or agency that placed the order, and the burlap preference rating which accompanied the order. Both points refer to frozen burlap—the unbroken bales of burlap over 10 bales that the order freezes in the hands of the owner.

Cotton Linters—Delivery of cotton linters and hull fiber, essential raw materials used in making chemical cotton pulp for explosives and plastics, was forbidden except to designated makers of chemical cotton pulp by GPE in M-12 as amended July 22, 1942.

Dyes—More of the better types of dyes will become available for civilian use during the third quarter of 1942 as a result of an amendment to Conservation Order M-103 issued June 26 by WPB. The amendment provides civilian quotas for anthraquinone vat dyes and other anthraquinone dyes for July 1 to Sept. 30 at the rate of 70% of their use in 1941. The current quarter's quota is at the rate of 50% of last year's use. All other provisions of the second quarter order are carried over into the third, including the prohibition against civilian use of nine colors, the entire supply of which is needed for the armed forces.

Elastic Fabric—Restrictions on use of some of the elastic fabric unsuitable for health articles under Conservation Order M-174 are lifted by Amendment No. 1 to the Order, issued June 27 by WPB. The amendment permits a manufacturer to use as he sees fit up to 10% of his stock of such elastic fabric, pending action on appeal to the WPB for authority to process some of the stock he had on hand on June 20.

Enameling Duck—WPB issued on July 13 Interpretation No. 1 of General Preference Order M-91 defining "enameling duck". M-91, which restricts the use of certain cotton duck, does not restrict enameling duck. The interpretation was issued in reply to inquiries as to exactly what construction constitutes enameling duck.

Kapok—The period in which dealers may sell kapok to manufacturers is extended by Amendment 3 to Conservation Order M-85, announced July 3 by DIO. The amendment permits a dealer to sell a 30 days' supply on a monthly basis, and also permits dealers to sell to the Board of Economic Warfare, or any other Government purchasing agency. Previously, Government business was confined to the Defense Supplies Corp.

READERS who may desire to consult the original releases from OPA and WPB, which bear particularly on their businesses and which are summarized on these pages, may obtain such copies, as long as the supply lasts, by writing to TEXTILE WORLD's Washington office (at National Press Bldg., Washington, D. C.) specifying the title and number of the order.

Manila Cordage—The processing, sale and delivery of Manila cordage are cut almost in half in an amended order, M-36, issued July 4 by DIO. Under the amended order, this is cut to 37% for processing and 41½% for sale and delivery. The rate for sale and delivery is slightly higher than the processing rate to enable cordage manufacturers to dispose of some of their processed stock.

PRP Supplementary Material Information Sheet—To facilitate authorization of critical raw materials to companies operating under the Production Requirements Plan during the fourth quarter, a Supplementary Material Information Sheet, use of which is optional, has been added to the revised Form PD-25A.

Rayon Yarn—The Allocation and Appeals Section of the WPB Textile Branch has decided to grant hosiery mills their full allocation of rayon yarn even though they may have scrapped some of their machinery. Under the rayon allocation order M-37-c, a mill is required to notify WPB if it scraps any of its knitting machines, looms or other fabricating machines, so that WPB can reconsider the quantity of rayon to be allocated such mill.

Rubber Yarn—The DSC is made the sole purchasing agent for the rubber yarn, latex yarn, and elastic thread frozen by Conservation Order M-124, under Amendment No. 4 to the order, issued by WPB on July 21. At the same time, WPB amended Schedule "A" of Priorities Regulation No. 13, to prohibit all other sales of these materials.

Silk Goods—The prohibition against the use of restricted material in church goods does not apply to silk that was woven or knitted into cloth or other finished products on or before June 13, 1942. Provision for this exception is made in Amendment No. 1 to General Limitation Order L-136, issued July 17. The amendment will permit use of fabricated silk in priests' cassocks and vestments, altar cloths and canopies and other church goods.

Silk Hosiery—All used silk hosiery in the hands of dealers, with minor exceptions, is frozen by a WPB order, M-182, issued July 20. The exception is used silk hosiery which is repaired for resale as second hand hosiery. Silk frozen

Addenda to Textile War Manual

by the order will be used for war purposes.

Silk Waste—WPB tightened control over silk waste, silk noils, and garnetted or reclaimed silk fiber. Since last August these materials have been under Governmental control with deliveries restricted to "defense orders" on A-10 or other low ratings. Under the amendment (M-26, as amended), issued July 11, silk waste, silk noils, and garnetted or reclaimed silk fiber may be processed, sold or delivered only for use by the Army, Navy, U. S. Maritime Commission, or the War Shipping Administration.

Wool—The WPB on July 1 took action intended to increase the amount of woolen cloth to be manufactured for civilians out of the limited quantity of new wool available. The wool conservation order, M-73, has been amended and extended for six months. Most important of the changes is one that decreases the amount of wool available for all-wool fabrics, but increases the amount of new wool available for cloth that is mixed with reworked or reused wool, or cotton or rayon. The amount of new wool to be used for the armed forces continues unrestricted. The base period remains the same, but the extension is for a six-month period instead of three. During the six-month period beginning Aug. 3, a worsted manufacturer may use new wool up to 20% of his basic quarterly poundage. Basic quarterly poundage means half of the new wool he used during the first six months of 1941. The new wool content of fabrics made from this 20% allocation is unrestricted, except that, generally speaking, a fabric containing any new wool must contain at least 20% wool. Since the second quarter allocation on the worsted system was 20% for a three-month period, the 20% allocation for the new six-month period amounts to only half as much. However, this is more than compensated for by a bonus provided for blending. The Bonus Blending provision is as follows: An additional allocation of new wool up to 25% of a manufacturers basic quarterly poundage is made available to the manufacturer who will use this bonus in the production of yarn or fabric containing not more than 65% of new wool. Similar restrictions and bonuses though in differing amounts are set up for the woolen manufacturing industry.

PRICE CEILINGS AND AMENDMENTS BY OPA

Bed Linens—Sales and deliveries of certain sheetings, sheets and pillow cases by Defender Mfg. Co., New York, are exempted from the provisions of Revised Price Schedule No. 89 (Bed Linens) through Amendment No. 7. Simultaneously maximum prices for these bed linens are provided under Order No. 12 to the GMPR. Both actions took effect June 23. The amendment provides that deliveries of gray sheetings and bleached pillow tubing against contracts entered into between May 4 and May 27, will be governed by MPR 118 (Cotton Products). Deliveries against contracts made after May 27, come under the scope of Schedule 89.

Burlap—Cents-per-yard ceiling prices for 41 specified constructions of burlap were added to the 17 constructions previously covered by Revised Price Schedule No. 18 (Burlap), in Amendment No. 2, issued July 3 by OPA.

Combed Gray Cotton Goods—Elimination of the requirement for monthly reports of sales and deliveries of combed gray cotton goods for which ceilings are not established by Revised Price Schedule No. 11 (Fine Cotton Gray Goods) was announced July 17 by OPA. For several months a report of this information has been required on Form No. 111:6 to inform OPA of the production and price trends of goods not under regulation. The action, through Amendment No. 3, was taken in response to a petition for amendment filed by Wamsutta Mills, New Bedford, Mass.

Cotton Products—More than 1700 individual dollar-and-cents ceiling prices chiefly at manufacturing levels, for terry towels, cotton and cotton mixture blankets, corduroys and other products were established July 13 by OPA. Amendment No. 6 to MPR No. 118 (Cotton Products), OPA continued its program of replacing with specific maximum prices the general pricing formula under the regulation. The cotton fabrics priced are various types of terry cloth towels, wash cloths, bath mats, and toweling; cotton, cotton and 5% wool, and cotton, wool and rayon blankets; corduroy fabrics, cottonades, whipcords and a miscellaneous group of "carded-yarn fancies." The most important groups covered are terry products, with about 1200 types, styles and sizes, and blankets and related cloths, with some 350 different descriptions. The amendment took effect on July 13, except with respect to blankets, blanketing, and blanket-robe cloth. For those products the new ceilings are effective as of May 4. Prices supplied represent the fourth group of such specific ceilings since Regulation 118 was issued. The plan of furnishing definite prices to replace individual ceilings was announced at that time. OPA has now set prices on a large percentage of the types of cotton products covered by the regulation.

Finished Piece Goods—All retailers are designated as "Class II" purchasers when buying finished piece goods of cotton, rayon or their mixtures covered by MPR No. 127, (Finished Piece Goods), OPA announced June 25 in amendment No. 5. Several groups of fabrics and certain classes of sellers are exempted from MPR No. 127 under the terms of Amendment No. 6 issued July 14. The amendment transfers specified fabrics produced under military specifications to Regulation 157 (Textiles, Apparel and Related Items for Military Purposes) while other groups of fabrics and sellers are removed from Regulation 127 and placed under the GMPR. Also provided are an adjustment of the "division factor" used in establishing ceilings on jacquard fabrics, a change in the method by which an independent converter determines his basic gray goods costs, a means whereby producers of fabrics used in high-priced dresses may petition for an adjustment of ceiling prices, and a premium for the sale of cut lengths of piece goods.

Textiles, Apparel & Related Items—Purchases by any war procurement agency of the U. S. Government of textiles, apparel, and related items for military purposes when certified for emergency delivery are excepted from MPR No. 157 under the terms of Amendment No. 3 issued July 6 by OPA. This exemption is the same as provided by Amendment No. 5 to Supplementary Regulation No. 4 to the

Addenda to Textile War Manual

GMPR excluding from the general regulation emergency purchases by the US or any of its agencies made for immediate delivery.

Towels—To expedite the army's procurement of several million huck towels under a pending invitation, OPA on July 18 announced a ceiling price of $1.73 per dozen for these towels made to Federal Specification DDD-T-531 (with or without woven name or colored stripe stamped or unstamped), terms net, f.o.b. shipping point. Established through Amendment No. 7 to MPR No. 118 (Cotton Products), this maximum price was issued in advance of dollars-and-cents prices at manufacturing levels for individual civilian styles of huck and crash towels, now being prepared by OPA.

Woolen Fabrics—Mark-ups which jobbers and "secondary jobbers" of domestic woolen and worsted civilian apparel fabrics are permitted to make under MPR No. 163 were adjusted to conform to customary trade margins through Amendment No. 2 by OPA on July 27. The action was taken in order that jobbers may continue their function of supplying and rendering service to clothing manufacturers, retail stores, merchant tailors and special order departments. It follows a thorough study by OPA of the function of jobbers and their customary mark-ups over cost.

Wool Floor Coverings—Immediate action against manufacturers and distributors of wool floor coverings who persist in the illegal practice of selling unorthodox and irregular sizes by combining key sizes in a single uncut length in order to obtain higher cut-order prices instead of roll prices was promised July 7 by OPA.

Wool, Grease—Methods by which ceiling prices may be determined for actual grease wool delivered in the grease wool futures market conducted by the Wool Associates of the New York Cotton Exchange, Inc., were announced July 16 by OPA. Amendment No. 6 to RPS No. 58, as amended (Wool and Wool Tops and Yarns) makes clear that no person may tender delivery of actual grease wool on the Exchange against a future selling contract if the selling price of that contract was higher than the maximum price which would be applicable to the sale of the same wool by the same seller on the spot market. It took effect July 20, 1942. The ceiling price for grease wool futures under the schedule is $1.035 per pound. If a specific grade of grease wool is delivered by a seller of a future contract in settlement of that contract, the actual wool is subject either to specified dollars-and-cents ceilings provided by the schedule or, if there is no such definite ceiling, the seller's maximum is the highest price he sold or delivered the same description of actual wool between Oct. 1, 1941 and Dec. 15, 1941.

Woven Fabrics, Decorative — Prices charged by manufacturers, converters and jobbers for woven decorative fabrics—drapes, automobile or furniture slip-covers and furniture upholstery—were reduced July 8 by OPA though issuance of a ceiling price formula bringing these products into line with maximum levels on manufacturers' sales of furniture upholstery fabrics that have been in effect since Nov. 10, 1941. A new maximum price regulation No. 39 (Woven Decorative Fabrics) was issued by OPA to take the place of Revised Price Schedule No. 39 (Upholstery Furniture Fabrics). The method by which a person other than a manufacturer of woven decorative fabrics establishes his ceiling price under MPR No. 39 was clarified through Amendment No. 1 issued July 16 by OPA which corrects an inadvertent error in the regulation. For the sale by such a person, chiefly a converter or jobber, the maximum price is corrected to read: "105% of the price quoted for the same pattern of the same construction in the *seller's* price list in effect on Nov. 10, to a purchaser of the same general class."

Priority Forms Still in Force

Although probably most priority instruments will be done away with before the year-end, several of them are and will be in force for some time, and must be used. Here is a brief tabulation.

PD-275 is the form on which consumers of critical metals have been reporting on metal consumption and requirements.

PD-25-A is the form on which companies using more than $5000 worth of metal per quarter, unless they are otherwise exempt, must apply for authority to buy materials. PD-25-X, the form on which small firms made application for authority to purchase under PRP, was designed to make less paperwork for firms doing less than $100,000 annual business. Now that PD-25-A has been simplified, PD-25-X has been discontinued.

PD-1A, which is issued by WPB, will continue to be used for capital equipment as usual. A manufacturer operating under PRP cannot get materials by extending PD-1A—he must rely on PRP. But where a rating assigned on PD-1A is served on a manufacturer outside the terms of PRP, the rating can be extended.

PD-3A, used for military requirements assigned by military officers, is used in almost the same way as PD-1A, for capital goods, finished products. But manufacturers under PRP must use it to get materials.

P-53, textile machinery repair and maintenance order, continues in effect.

L-83, the general machinery limitation order, which covers textile machinery, remains in effect. This order merely limits the normal output of textile machinery plants, converts them to ordnance. It gives them no aid getting metals.

P-19, A series of standard rating certificates, to companies rather than to single orders, which constitute "approved" orders under L-83, are continued in effect, as are their application forms, PD-200.

Cotton Fabrics—On July 7 OPA announced additional cents-per-yard ceiling prices for cotton products covered by MPR No. 118 (Cotton Products) at the same time that eight fabrics, when procured for military purposes, were transferred from the scope of this regulation. This transfer was effective only until July 15, when the eight fabrics went under MPR No. 157. Amendment No. 5 to Regulation 118 also provides a special method for pricing bedspreads and tobacco seed bed covers, and transfers from this regulation to the GMPR products of towel mills which buy their own yarn. The specific maximums which replace the general pricing formula of the regulation, include industrial and other wide print cloths, and a special baling fabric developed by tapestry, carpet and plush mills with the assistance of the WPB, while an additional category, "Class A," is added to the previously established wide industrial drills group. Definite prices for specified individual companies are also established for the following types of cloth: special dobby tobacco cloth, wide fancy dobby gray upholstery fabric, luggage cloth and play cloth. Prices are set on wide industrial print cloths, wide print cloths, wide industrial drills and 4-leaf twills, baling fabric, tobacco seed bed covers. Goods transferred to MPR 157 (Cotton Products) are as follows: 8.2 oz. twill, dyed herringbone twill, sanforized gray drill, dyed drill, silesia, dyed sheeting and water-repellent cloth.

Mildewproofing Military Fabrics

Experiments indicate phenyl mercuric acetate is effective for this purpose

By W. S. MARSH, Bacteriologist and A. E. DUSKE, Technical Assistant
United States Testing Co., Inc.

THE WAR has greatly stimulated the demand for mildewproofed fabrics. Sandbag fabrics, camouflage cloth, canvas, and duck are used under conditions that render them exceedingly liable to mold and mildew attack. Prolonged contact with both soil and air microorganisms in the presence of moisture, darkness, and other factors limit the usefulness of many fungicides and germicides. For war uses, the copper compounds predominate. These compounds are quite efficient and have had official sanction for use in mildewproofing burlap, osnaburg, etc. However, they must be used in relatively high concentrations, and in some instances difficulty is experienced in their application. Presence of copper may interfere with dyeing operations and make it difficult to obtain the desired shade—notably with camouflage cloth, and copper compounds are not too readily available due to the demand for copper for other war purposes. For these reasons, the United States Testing Co., Inc., deemed it advisable to investigate some of the more recently developed fungicidal and germicidal agents to determine whether or not any of them would meet present-day requirements for mildewproofing compounds. The experiments carried out in the laboratories of this company indicate that a 1-2000 aqueous dilution of phenyl mercuric acetate is an effective mildewproofing agent for textiles.

The first step in the investigation was to make a study of the literature on mildewproofing processes. Following this, a set of requisites for an ideal mildewproofing process was set up. These requisites are shown in Table I. Next various types of compounds were experimented with. Early experiments indicated that none of the compounds tested would meet all the requirements listed. In one instance, the compound would be ruled out because of cost; in another, because of alterations of dyeing qualities; in still another, because of toxic properties. It was then decided to experiment with organic compounds of mercury, as the high bactericidal values of these compounds had been noted by many authors. A partial bibliography on the bactericidal properties of organic compounds of mercury appears at the end of this article.

Results of preliminary experiments in our laboratories indicated that tests should be limited to salts of the phenyl mercuric group. The most active of these salts are the nitrate, the acetate, and the borate. Our final experiments were all carried out with the acetate. It was determined that 1 gram of this substance is readily soluble in 1,500 cc. of distilled water. All experiments reported below were carried out with dilutions of this standard stock solution.

In order to substantiate claims of non-toxicity, fungicidal and bactericidal values, and effectiveness as a mildewproofing agent, several series of experiments were carried out with phenyl mercuric acetate. The conclusions drawn from these tests are as follows:

1. A 1-2000 aqueous dilution of phenyl mercuric acetate is an effective mildewproofing agent for textiles. Fabrics treated with phenyl mercuric acetate meet or exceed U. S. Army Specification T-1212 for camouflage and T-1452 (accelerated mildew infection method).

2. Difficulty experienced in washing out the compound from fabrics indicates a high degree of permanency of treatment.

3. To the unaided vision there is no alteration of the feel, texture, or nature of fabrics treated with phenyl mercuric acetate.

4. The cost of treating fabrics with this compound is small, as very dilute concentrations of the compound are used.

5. Fabrics treated with a 1-2000 aqueous dilution of phenyl mercuric acetate can be considered as non-toxic. Considering the difficulty entailed in washing out the phenyl mercuric acetate from fabrics treated with it, it can be inferred that at no time would enough phenyl mercuric acetate be extracted to elicit a pathological response. A further point to consider is that war fabrics so treated would not be in contact with tissue except in handling. Studies should be made, however, on the cumulative toxic effect of this compound.

There appears to be some aversion to the use of mercurials in the textile industry. Isolated cases of mercury poisoning from *toxic* mercurials have fostered the belief that all mercurials are extremely poisonous. In view of these beliefs, the authors corresponded with various government authorities and agencies. Opinions were expressed as follows:

A. Food and Drug Administration—"Textile fabrics containing mercury compounds will not be subject to the provisions of the Federal Food, Drug, and Cosmetic Act unless their labeling bears claims which will classify them as drugs."

B. U. S. Public Health Service—"I wish to state that I do not know of any Government promulgated laws regard-

Table I. Requisites for an ideal mildewproofing process.

1. *The process must meet or exceed all U. S. Army Specifications for mildewproofing treatments.*
2. *The process must be inexpensive both from material and labor viewpoints.*
3. *The chemical agents used in the processing should be non-toxic under conditions of use.*
4. *The process must impart permanent mildewproofing qualities for the life of the fabric.*
5. *The processing should be simple and not require additional mill handling.*
6. *The process should in no way alter the nature of or the dyeing qualities of the fabrics.*
7. *The extended use of the process should not unduly interfere with war production or the use of necessary chemicals.*

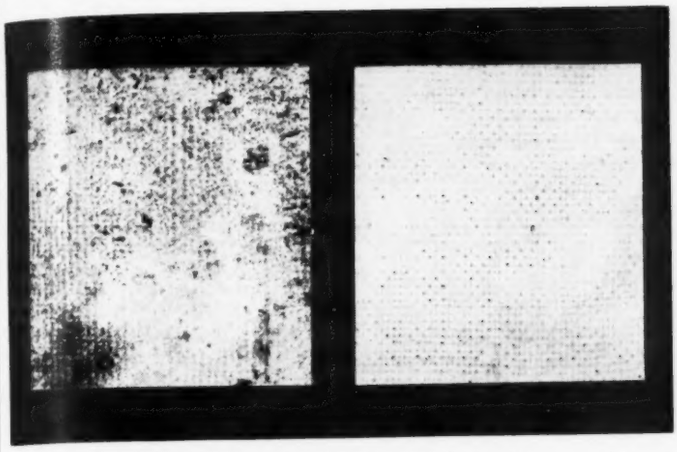


Fig. 1. Camouflage fabrics tested for mildew resistance according to U. S. Army Specification T-1212. Left, untreated fabric; right, fabric treated with phenyl mercuric acetate.

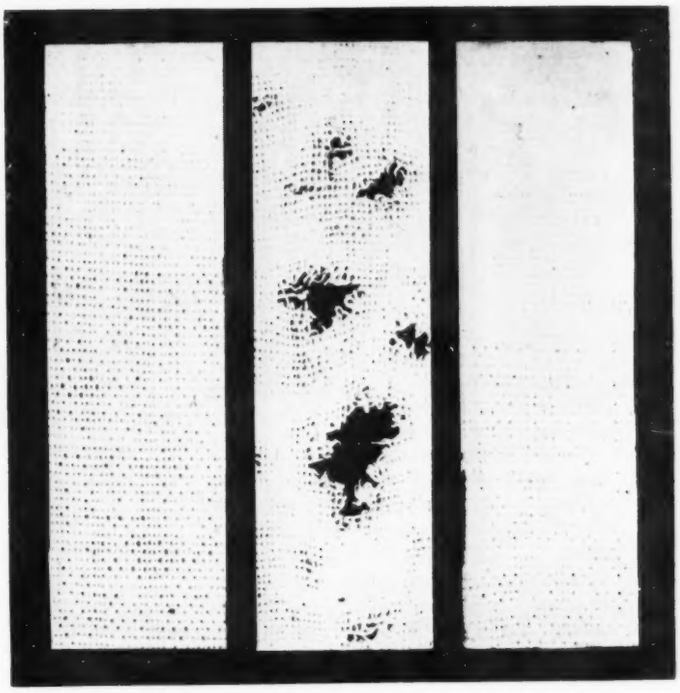


Fig. 2. Fabrics tested for mildew resistance according to U. S. Army Specification T-1452. Center, untreated fabric; left and right, fabrics treated with phenyl mercuric acetate.

ing use of mercury compounds in textile fibers."

C. U. S. Department of Agriculture—"—as to legislation governing the use of mercury compounds in textile fabrics, we have investigated quite carefully all available references but regret to say that we can find little or nothing on this subject dealing with its legalistic aspects."

D. Committee of Revision of the Pharmacopoeia of the United States of America—"So far as I know, there is no legislation prohibiting the high dilutions of such compounds as phenyl mercuric nitrate or other mercuric compounds of a like character in textile systems."

E. U. S. War Department, Office of Chief of Engineers—"This office has no preference as to what mildewproofing agent is used as long as it passes the mildew test set forth in the specification."

Table II. Dilutions of phenyl mercuric acetate used in toxicity tests on animals.

Series A	*Series B*	*Series C*
1–1500	1–6000	1–15,000
1–1750	1–7000	1–20,000
1–2000	1–8000	1–25,000
1–2250	1–9000	1–30,000
1–2500	1–10,000	1–40,000
1–2750	1–11,000	1–50,000
1–3000	1–12,000	
1–4000	1–13,000	
1–5000	1–14,000	

Details of Experiments

1. **Toxicity to animals.** Aqueous solutions of phenyl mercuric acetate were made up in the dilutions shown in Table II.

With aseptic precautions, the dilutions of Series A were injected intraperitoneally in mice of an average weight of 20 grams in 1 cc. amounts. The reaction of the animals over a 24-hr. period is indicated in Table III. This experiment indicates that test animals of an average weight of 20 grams endure the presence of 0.67 mg. of phenyl mercuric acetate for 24 hr. when injected intraperitoneally.

With aseptic precautions, the aqueous dilutions of Series A and B and controls were injected intradermally in 1 cc. amounts in rabbits. The extent of irritated areas developed is indicated in Table IV. This experiment indicates that 1-1500 to 1-4000 dilutions of phenyl mercuric acetate induce slight iritation when injected in animals intradermally. No visible effect is noticeable in higher dilutions. After 24 hr., a slight necrosis is noted with the 1-1500 dilution and visible slight irritation up to a 1-2000 concentration.

The dilutions of Series C were injected intravenously in test animals. No visible macroscopic changes were noticed. The above experiments having indicated that test animals endure the presence of phenyl mercuric acetate in vivo in concentrations corresponding to those used to render fabrics mildewproof, it follows that this compound may be considered non-toxic under such conditions of use. It is to be remembered that all animal toxicity experiments were carried out within the living body.

2. **Effect on Human Individual.** An excess of phenyl mercuric acetate was incorporated in the bath of one of the authors. Immersion in this solution for ½ hr. resulted 2 hr. later in a redness developing on the exposed areas. The irritation produced was not painful and corresponded to a minor sunburn. One week later a solution of approximately 1-2000 was made up in the bath. A ½ hr. immersion in this solution showed no visible reaction at any time. No ill effects were noticed. In these experiments the entire lower half of the body was immersed in the solutions.

3. **Effectiveness as a mildewproofing agent.** The fabrics tested were treated by dipping in a 1-2000 aqueous solution of phenyl mercuric acetate until thoroughly wet (approximately 1 min.). They were then dried at room temperatures and subjected to various mildew tests stipulated in U. S. Army Specification T-1212 for camouflage materials and U. S. Army Speci-

Table III. Reaction of mice to intraperitoneal injections of Series A dilutions of phenyl mercuric acetate.

Dilution	*Immediate reaction*	*Reaction after 24 hr.*
1–500	Some shock Excitement	S
1–1750	No reaction	S
1–2000	No reaction	S
1–2250	No reaction	S
1–2500	No reaction	S
1–2750	No reaction	S
1–3000	No reaction	S
1–4000	No reaction	S
1–5000	No reaction	S

D = Death; S = Survival

fication T-1452. The details of these specifications are noted below:

CAMOUFLAGE MILDEW RESISTANCE TEST. This test is described in Tentative Specification T-1212, issued by U. S. Army Corps of Engineers. Briefly, it consists of testing 2x2 in. samples of fabrics treated with the mildewproofing compound, together with untreated control samples, by pressing the squares on a culture of mold grown on malt agar in 10-cm. petri dishes, allowing them to remain on the culture for 20 to 24 hr. at 25° C., and hanging them in a cabinet with a temperature of 100° F. and relative humidity of 95 to 100% for a period of three weeks. No growth of mildew shall be noted on the sample. The control shall be well covered with mildew.

Twelve treated samples and controls were tested. After 21 days incubation, no evidence of mildew growth was noted on any of the treated samples. All controls were covered with a copious growth.

ACCELERATED MILDEW INFECTION METHOD. This test is described in Tentative Specification T-1452 issued by U. S. Army Corps of Engineers. Briefly, it consists of testing 10 bleached samples of fabric treated with a mildewproofing agent, together with 10 untreated control samples, by sterilizing them with steam, placing them on sterilized agar in individual bottles, inoculating the samples with a culture of Chaetomium globosum, capping the bottles, incubating at 28 to 30 ° C. for 14 days, observing and recording appearance of samples, washing clean of mold, drying at 100 to 150° C., conditioning, determining tensile strength by A.S.T.M. raveled-strip method, and computing average breaking strength of the 10 treated exposed samples, of 10 treated unexposed samples, and of the 10 untreated exposed samples. A report is made including a notation of the presence or absence of mold growth on the treated samples after inoculation and incubation, the percentage loss in the average breaking strength of the treated samples during the test, and in the percentage loss in the average breaking strength of the untreated samples during the test. A treatment shall be considered satisfactory if the average loss in breaking strength of the treated samples during the test is not more than 10%, provided that the average loss in breaking strength of the untreated samples during the test is more than 90%.

Twenty samples dipped in 1-2000 aqueous phenyl mercuric acetate solution for 1 min. were then tested with necessary controls. Ten samples were incubated and ten inoculated and incubated. Results are shown in Table V.

4. **Permanency of treatment.** Osnaburg fabric was placed in a 1-2000 aqueous dilution of phenyl mercuric acetate for 1 min. The fabric was then removed and dried at room temperature. Tests for the presence of the phenyl mercuric acetate were then carried out after 5, 10, 15, and 20 vigorous washings and rinsings of the treated sample according to the procedure used in Bulletin 198 U.S.D.A. Each washing consisted of a vigorous scrubbing of the fabric with soap and water followed by three thorough rinsings. The test organisms used were Staphylococcus aureus and Chaetomium globosom. The results are expressed as millimeters of inhibition of growth of the test organism about the samples tested and are indicated in Table VI. These tests indicate that osnaburg fabric treated with a 1-2000 aqueous phenyl mercuric acetate solution retains inhibitory values against Staph. aureus and Chaetomium globosom to a high degree.

BIBLIOGRAPHY

1. "Disinfection and Sterilization," E. C. McCulloch; published by Lea & Febiger.
2. Weed, L. A. and Ecker, E. E., "Phenyl Mercuric Compounds—Their Action on Animals and Their Preservative Values," *Jour. Infect. Diseases*, 52, 334, 1933.
3. Birkhaug, K. E., "Phenyl Mercuric Nitrate," *Jour. Infect. Diseases*, 53, 250, 1933.
4. Tisdale; See "Disinfection and Sterilization" as in (1) above.
5. Weed, L. A. and Ecker, E. E., "The Bactericidal Action of Phenyl Mercuric Nitrate," *Jour. Infect. Diseases*, 51, 309, 1932.
6. Birkhaug; Same as (3) above.
7. Stark, O. K. and Montgomery M., "A Study of the Bacteriostatic and Germicidal Powers of Merphenyl Nitrate," *Jour. Bact.* 29, 1, 607, 1935.
8. Nye, R. N., "The Relative in Vitro Activity of Certain Antiseptics in Aqueous Solutions," *J.A. M.A.*, 108, 280, 1937.
9. Hart, M. C. and Anderson, H. P., "Some Organic Mercurials," *J.A.C.S.*, 57: 1059, 1935.
10. Hutten, J. H., "Mildew Proofing Textile Fibers," *Chem. Ind.* I 43, 173, 1938.

Table IV. Reaction of mice to intradermal injections of Series A and B dilutions of phenyl mercuric chloride.

Dilution	*Observations and width of area of irritation (m.m.) 15 hr. after injection*	*Observations and width of area of irritation (m.m.) 36 hr. after injection*
1–1500	11 m.m. diffused redness	14 m.m. slight necrosis
1–1750	11 m.m. redness	7 m.m. visible redness
1–2000	8.5 m.m. redness	3 m.m. very slight redness
1–2250	9.0 m.m. redness	0 m.m. normal
1–2500	4 m.m. slight redness	1.5 m.m. possible redness
1–2750	2 m.m. slight redness	0 m.m. normal
1–3000	(?) m.m. slight redness (?)	0 m.m. normal
1–4000	0 m.m. very slight redness	0 m.m. normal
1–5000	0 m-m. normal	0 m.m. normal
1–6000	0 m.m. normal	0 m.m. normal
1–7000	0 m.m. normal	0 m.m. normal
1–8000	0 m.m. very slight redness	0 m.m. normal
1–9000	0 m.m. normal	0 m.m. normal
1–10,000	0 m.m. normal	0 m.m. normal
1–11,000	0 m.m. normal	0 m.m. normal
1–12,000	0 m.m. normal	0 m.m. normal
1–13,000	0 m.m. normal	0 m.m. normal
1–14,000	0 m.m. normal	0 m.m. normal
Control	0 m.m. normal	0 m.m. normal
Control	0 m.m. normal	0 m.m. normal

Table V. Results of tests made by accelerated mildew infection method.

Average tensile strength of untreated samples	67.3 lb.
Average tensile strength of inoculated untreated samples	Completely decomposed
Average tensile strength of treated samples (incubated)	66.4 lb.
Average tensile strength of treated samples (inoculated and incubated)	65.9 lb.
% Loss tensile strength after inoculation and incubation	0.76%
Amount of growth on inoculated untreated samples	100% covered
Amount of growth on inoculated treated samples	None

Table VI. Results of tests to determine permanency of treatment.

	Area of inhibition of growth of test organism	
	Staphyloccocus aureus	*Chaetomium globosom*
Untreated Fabric	0 m.m.	0 m.m.
Fabric treated 1/2000	8 m.m.	17.5 m.m.
Fabric treated 1/2000 after 5 washings	7 m.m.	17.0 m.m.
Fabric treated 1/2000 after 10 washings	6.5 m.m.	14.5 m.m.
Fabric treated 1/2000 after 15 washings	5 m.m.	7.0 m.m.
Fabric treated 1/2000 after 20 washings	2.5 m.m.	5.5 m.m.

"Get in the Scrap"

National Salvage Program offers YOU an opportunity to take a crack at the AXIS

HITLER has ordered the confiscation of all unused iron and steel in Germany. Uniformed police under Heinrich Himmler, Gestapo chief, will enforce the salvage campaign. Factory managers who fail to comply with the decree will be arrested.

American industries need old iron and steel. But the armed police in our towns and cities will not enforce the salvage campaign; factory managers have not been threatened with arrest. Instead, we have organized our program on a voluntary basis. Every man, woman, and child in the United States has been offered an opportunity to "Get in the Scrap" and take a crack at the Axis. And we are getting set to make it a real wallop.

American industrialists, of their own free will, have formed an American Industries Salvage Committee to cooperate with the War Production Board in carrying out a National Salvage Program. This committee has raised two million dollars, now being spent on an advertising and publicity campaign to focus public attention on the need for scrap and back the National Salvage Program inaugurated by WPB.

This program covers general salvage, industrial salvage, auto graveyard salvage, and special projects salvage.

Textile mill executives are concerned primarily with that part of the program relating to industrial salvage; secondarily, with that pertaining to general salvage. For their part in the campaign, textile manufacturers must know:

1. What kinds of scrap are wanted.
2. How to set up a salvage collection program.

SCRAP NEEDED includes old iron and steel; copper, brass, zinc, lead, aluminum, and other non-ferrous metals; rubber; old manila rope; burlap; collapsible tin tubes; and waste cooking fats. Also needed in certain regions are rags, tin cans, waste paper, and glass bottles. Not wanted for war needs are old razor blades or cancelled stamps.

One illustration will show the importance of scrap to the war effort. The steel mills of this country have an annual capacity to turn out approximately 90,000,000 net tons of steel ingots, but the blast furnaces which reduce iron ore can make only 55,000,000 net tons of pig iron, some of which must go to foundries for the production of castings. Most steel mills charge 50% scrap with 50% pig iron to make new steel, whereas most foundries mix 65% scrap with 35% pig iron. In 1941, consumption of scrap was 60,000,000 net tons, of which 33,500,000 tons was generated in steel mills and foundries in the various processes of making steel and castings, and 26,500,000 tons was the scrap that came from factories, railroads, public utilities, households, automobile graveyards, farms, demolition of old buildings, breaking up of ships, dismantling of railroad lines, etc. During the last two years reserves of scrap iron and steel have been whittled away, until today they amount to only a three-weeks' supply. Therefore, more scrap than is normally collected must be obtained if the iron and steel industry is to increase its production or even to continue at its present rate.

Pepperell Mfg. Co. is throwing its scrap into the fight; parts of machinery that has been broken and is totally unusable are collected and sold to junk dealers to be returned to the steel mills.

SALVAGE PROGRAM. How to set up a salvage collection program is outlined by the Industrial Salvage Section, Conservation Division, WPB, as follows:

1. Put one individual in charge of salvage in all departments of your business and give him authority.
2. Comb the plant and yards for dormant scrap, unused and abandoned equipment, old boilers, boiler flues, pipe, etc., which has salvage value, and dispose of it as scrap.
3. Survey all plant equipment, particularly idle, stand-by, or discarded machines, with a view to applying or converting it to useful production.
4. Segregation: Classify and segregate scrap, and supervise its handling to avoid contamination and secure maximum return; it will increase its value also. Provide separate containers, clearly marked, for each class of scrap material.
5. Devise awards and incentive systems to recognize effective work in the conservation and salvage program.
6. Work through foremen to reach every machine operator in preventing spoilage and minimizing waste at the source.
7. Constant reminders in the form of posters, illustrations of right and wrong methods, pay-envelope enclosures, house organ publicity,

etc., are potent aids to the conservation program.

8. Eliminate unnecessary forms and records, and unnecessary carbon copies of necessary forms.
9. Separate paper scrap—white and colored, news and book or catalog stock—before sending it to the baler, for greater salvage values.
10. Obsolete engravings and electrotypes, and standing type for catalogs, forms, advertising material, etc., are tying up tons of urgently needed metal. Release such material as promptly as possible for re-use or scrap.
11. Organize and direct the necessary staff for carrying out the program. Veteran employees with imagination, initiative, and practical familiarity with the company's materials and operations are frequently ideal for such work. Get your advertising department busy on this salvage collection effort.
12. Determine whether material shall be reclaimed or scrapped. Arrange for prompt disposal.
13. Inspect all refuse to detect waste, and educate production executives to correct such conditions.
14. Speed the return of scrap to mills and refineries through existing channels.
15. Report all idle stock promptly for reclamation or scrap disposal.
16. Be a good housekeeper to avoid accumulation of idle stock and to prevent waste.
17. Report promptly any equipment which is definitely obsolete, and see that it is disposed of as scrap.

Textile manufacturers can aid further by encouraging and stimulating their employees to enter wholeheartedly into the general salvage campaign being conducted in the mill communities. Point out the need for scrap and methods of collecting and disposing of scrap materials collected in the home by means of brief speeches to groups of employees by plant executives and members of local Volunteer Salvage Corps, through use of posters throughout the plant, by pay-envelope enclosures, and by articles in house organs.

Remember! The National Salvage Program is not a one-week or a one-month campaign. Salvage is an all-out continuing effort and must be organized as such.

If you want further information or assistance on any phase of industrial salvage, get in touch with Charles H. McArthur, chief, Industrial Salvage Section, Conservation Division, War Production Board, Washington, D. C., or with your regional headquarters. Regional officers in textile centers are: ATLANTA, H. B. Hayes, Candler Bldg.; BOSTON, Samuel Doane, Room 23, Ames Bldg.; CHICAGO, D. W. Gee, 3117 Civic Opera Bldg.; NEW HAVEN, L. P. Sawyer, 508 Liberty Bldg.; NEW YORK, 714 Chanin Bldg.; PHILADELPHIA, A. M. Simpson, 671 Broad St.; WILKES-BARRE, Charles C. Steel, 53 W. Market St.

Capt. Ellison A. Smyth, the Pioneer, Dies

CAPT. ELLISON ADGER SMYTH, who next October would have celebrated his 95th birthday, died Aug. 3 at his home, "Connemara," near Flat Rock, N. C. He was the dean of the southern cotton-textile industry and the last of the group of pioneer industrialists who laid the foundation for the present textile South. He had retired twice—first in his early 70s, but he quickly emerged to build and operate another cotton mill, the Balfour (N. C.) Mills; and second, about two years ago when he relinquished the presidency of that mill to the younger generation.

Captain Smyth was a native of Charleston, S. C. He was born in 1847, when there were still men alive who remembered the beginnings of this country and its early heroes. He was in his teens during the Civil War, and, as a member of the Confederate Army, saw service during the last eight months of that conflict. He retained residence in Charleston during the trying years of the reconstruction in the South and was active in rifle clubs formed for home defense. His business connection at that time was with the wholesale hardware trade. However, he was impressed with the economic possibilities of the Piedmont section of his State, and, selling out his hardware interests, when he was 34 years old, he organized the Pelzer Mfg. Co., at Pelzer, S. C., in 1881. From time to time as the company prospered additional plants were added. Pelzer No. 4, built in 1895, was the first electrified mill in the United States. The Pelzer properties were sold to Lockwood-Greene in 1923 for $9,000,000.

Capt. Ellison A. Smyth

From 1890 to 1925, Captain Smyth was extremely active in the textile industry and contributed much to the upbuilding of the Piedmont section. He constructed three dams and related power units on the Saluda River, organized the Belton (S. C.) Mills, reorganized and operated at various times the Grendel Mills, Greenwood, S. C.; the Ninety-Six (S. C.) Cotton Mills; Toxaway Mills and Riverside Mills, Anderson, S. C. (now units of Gossett Mills). He organized several banks and power companies, and reorganized the Anderson (S. C.) Fertilizer Co. Although he sold his South Carolina holding around 1923, he remained active in the management of some of them for a time and on the board of directors of many of them until recently.

He served on the board of governors of the American Cotton Manufacturers Association from 1907 to 1910, and as president from 1911 to 1912. He was president of the Cotton Manufacturers Association of South Carolina for 14 years. As recently as 1939, when president of Balfour Mills, his program involved attendance from 9 a.m. to 2 p.m. at the mill office, and, after lunch, a check-up on the operation of his 400-acre farm. He continued the management of the Traffic Department of the A.C.M.A. which he organized in 1890.

In an interview with a representative of TEXTILE WORLD in 1938, Captain Smyth said that he had no basic philosophy to which he could credit his success beyond knowing "when to buy and when to sell."

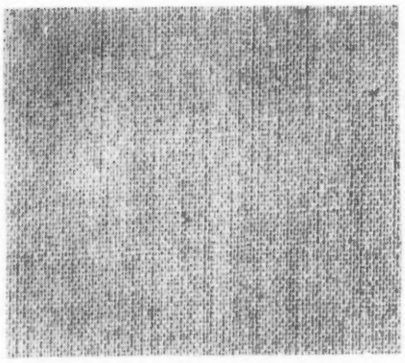
Fabrics For Military Purposes

Cotton drills sought by Army and Navy; cotton canvas padding, and 48-oz. duck

DRILL, cotton cloth, bleached, fully shrunk, covered in Invitation for Informal Bids No. 669-42-NEG-314, is one of the fabrics sought by the Army, in large quantities. The following requirements apply to a drill made to meet this bid: Grade shall be firsts; fabric shall be fully shrunk, fully bleached, properly neutralized and be smooth and clear in appearance. Fabric shall be finished from a standard 38½ in. 72x60, 1.93 yd. drill. The drill shall have minimum weight of 6.5 oz. per sq. yd. and shall finish not les than 35 in. in width as specified in the invitation for bids. When subjected to tests for shrinkage in laundering as outlined in Section XIV of Federal Specification CCC-T-191a, as amended, the fabric shall not shrink more than 1% in warp and 1% filling. Threads per inch shall be 74x58 minimum. Breaking strength minimum shall be 1 by 1 by 3 grab method, shall be 105 warp and 75 filling. [Although slightly different from that stated in the specification, the following gray construction has been found approximately correct to produce the required fabric: 38 in., 72x60, 1.89 yd. per lb. 13¼s warp and 15½s filling. Finish not less than 35 in.]

SHEETING, cotton olive drab for mosquito bars is specified in Invitation for Informal Bids, No. 669-42-NEG-272. Fabric shall be dyed an olive drab. The sheeting finished shall weigh not less than 5 oz. per sq.yd. based on 36 in. and shall have a minimum width of 35 in. as specified in invitation for bids. Threads per inch shall be 48x48 minimum. Breaking strength minimum by 1x1x3 grab method, shall be 50 lb. warp and 55 lb. filling. Maximum shrinkage shall be 5% warp and 5% filling. Base fabric is specified in the invitation for bids as a 48x48, 2.50 commercial sheeting, 40 in. basis. [Although not stated in the specification, the following yarns are approximately correct: 13½s warp and 12s filling.]

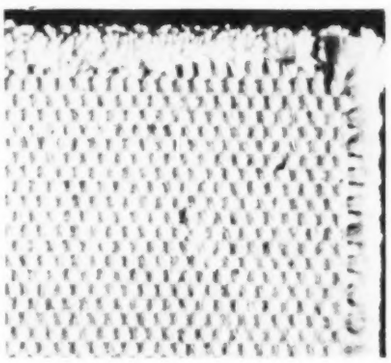
CANVAS PADDING, covered in U. S. Army Specification No. 14-6A is requested in Type I. Linen; and Type II, Cotton. [Type I Linen will be of little interest to mills due to linen shortages.] The cotton fabric shall be an approved



Canvas padding cloth.

shade of tan obtained without the use of sulphur colors. The cloth shall be preshrunk and when subjected to tests for shrinkage in laundering as outlined in Federal Specification CCC-T-191 shall not shrink more than 1% in warp or filling. Finish shall be suitable for padding and shall have a smooth clear finish. The finished cloth shall have approximately the same degree of stiffness as the standard sample.

Type II cotton canvass padding shall weigh 6 oz. per sq.yd. with regular commercial widths as specified in invitations for bids. Threads per inch shall be 52x45 minimum. Breaking strength by 1x1x3 grab method, shall be 65 lb. warp, and 60 lb. filling. [Although not stated in the specification, the following gray construction is approximately correct to produce the required fabrics: 36 in. 48x48, 2.85 yd. per lb. 13¼s warp and 14¾ filling. To finish 33 in. or as specified in invitations for bids.]



Cotton duck, 48-oz.

BLUE DRILL, dress uniform fabric is covered by Navy Department Specification 27D8a. This is a 7.5 to 8.2 oz. per yd. drill of combed 2-ply yarn. The following requirements apply to the drill made to meet this specification: Grade shall be firsts; weave shall be a 3 up and 1 down, twill to the right, cloth shall be fully mercerized and shall be finished soft, pliable, and with a smooth surface. The fabrics shall be fully singed before dyeing, and shall be preshrunk, so shrinkage of the finished fabric does not exceed 1% in warp or 1% filling. Dye shall be vat blue equal to the standard sample as to shade, fastness to light, laundering, and crocking. The finished fabric shall contain no sizing. Test methods shall conform to Federal Specification CCC-T-191 wherever applicable. The drill shall be a minimum weight of 7.5 oz. per sq. yd. and a maximum of 8.2 oz. per sq.yd. and shall have a width of not less than 39 in. Threads per inch shall be 116x56 minimum. Breaking strength, minimum, by 1x1x3 grab method, shall be 175 lb. warp and 130 lb. filling. [Although not stated in the specification, the following gray construction is approximately correct to produce the required fabric: 43 in. 108x58, 1.60 yd. per lb., 36/2 warp and 24/2 filling. To finish 39 in.]

DUCK, cotton, gray 48 oz. is covered in Specification P. Q. D. No. 136. It is similar to a 12/0 duck, which is used principally as a filter fabric; and in the service it is used in the construction of hats. Grade shall be firsts; cotton shall be of suitable length of staple and grade to meet the specification; yarn shall be carded stock thoroughly cleaned, evenly drawn and spun; weave shall be plain. The sizing content of the duck shall not exceed 5%.

Test methods shall conform to Federal Specification CCC-T-191 wherever applicable. The duck shall have a minimum weight of 48 oz. per yd., and shall have a width of 24 to 42 in. as specified. Threads per inch shall be 21x12 minimum. [Although not stated in the specification, the following gray construction is approximately correct to produce the required fabric: 36 in., 21⅓x12½, 48.31 oz.; 8s, 10-ply warp; 2.60 t.p.i.; 6¼s, 13-ply filling, 1.5 t.p.i.]

England's Lesson in Concentration

Careful planning, and control of all elements, found essential to success

EDITOR'S NOTE: Since Donald Nelson, chairman of WPB, announced on July 23 that the principle of concentration of industry in "nucleus" plants had been approved by the board, the possibilities of this further drastic step in industrial mobilization for war have aroused the interest of all manufacturers.

Consequently the experience of England in the concentration, specifically, of the textile industry, should be studied most carefully. In this article, an experienced observer, who has had ample opportunity to study the experiment, analyzes the results and isolates the two principal lessons to be learned from them.

CONCENTRATION OF INDUSTRY has been in effect in England for the last 16 months. In some quarters a similar drastic form of interference with private enterprise is already being advocated here. If such a course should become necessary for the war effort—and this should be the only test for its adoption—can we learn anything from Britain's experience?

The writer believes that we can, and that textile men especially should be interested, because cotton was the first major industry on which the experiment was tried, and the first one, outside direct munitions, to adapt itself to a state of full war economy.

Briefly, concentration of production, as interpreted in England, means that about 90 different industries, chiefly catering to civilian demand, must carry out all their activities in plants working full time. The British Government gave those industries a time limit, generally about ten weeks, within which to form their plans, and decide voluntarily among themselves which were to close and which to remain in business. After the expiration of the time limit, the Government itself took the decision into its own hands.

Methods adopted to meet the Government's order to concentrate were various: Some firms merged outright; others transferred their quota of raw materials and shared in the profits of the firm continuing in business; others maintained their selling organization while having their manufacturing done at cost by a "nucleus" firm. In the textile industry, the problem of the firm which was not declared nucleus and therefore not permitted to continue in business, was met by a levy on active firms of about 2c. a spindle per month. The levy took care of plant maintenance of closed firms, and covered rent, heating, repair, night watchmen, fire watchers, etc. The basis is £10,000 ($40,000) per annum for a mill of 100,000 spindles, and in proportion for smaller mills. The extent to which the cotton industry streamlined its structure is shown by the fact that four months after being told to concentrate, there were only 286 spinning mills open out of 503, and 709 weaving sheds out of 1238.

This excellent record of concentration is somewhat marred by the fact that the purpose of such a drastic dislocation of the industry was not fully achieved. All the manpower released did not, as was contemplated, enter war industry. This result spotlights the evil of incomplete planning. The Board of Trade was able to force the plant owners to comply with its orders, because if they did not, the Minister of Supplies would cut off their raw materials, but at the time there was no power to compel the labor from closed plants to enter munition works and only a small proportion did so. Many of the women found employment as sales-clerks in stores. There was even a leakage of at least 8,000 of them, nearly a fifth of the whole number displaced, who did not go into any kind of work.

Six months later, in December, 1941, Parliament passed a labor conscription act which even applies to women up to the age of 41, and now the Government has the power to direct labor as well as industry. Therefore, so as not to nullify its purpose, if concentration of industry is to be introduced here Washington must have the power to control every element which forms the component of an industry—management, labor and supplies.

In the case of supplies the experience of the English cotton industry is also instructive. The weaving section, even though fully concentrated, has had to operate below capacity for considerable periods, with some sheds closed for days, because the spinning section was short on its deliveries of yarn.

BUT WHAT THE EXPERIENCE of the English cotton industry illustrates most of all is that snap judgment is not synonymous with planning. The Government particularly wanted textile operators for the new munition plants opening in the spring of 1941, because they already had the technical acquaintance with machinery which would make them quickly adaptable to handle the lathes, etc., in war plants. The cotton industry, therefore, was stripped bare of any surplus labor and its productive capacity cut down to the minimum. No provision had been made in the concentration plan for any change in circumstances.

Within two weeks after concentration had been completed, events radically changed the picture for the industry. Russia entered the war and Britain was called upon to make good a considerable part of the vanished output of the destroyed textile mills of its new ally. There were also heavier demands for tropical uniforms for extended operations in the middle East. An industry that had spent two months contracting to the bone, suddenly found itself faced with rapid expansion, but the surplus skilled labor that could have taken care of the situation had been dispersed.

During the summer of 1941, underproduction became so acute that in October the Government had to apply the powers of the Essential Works Order to the spinning part of the industry. This meant that no one could leave an industry from which the Government only a few short months before had been ousting workers. In January, 1942, overtime was introduced which applied even to juveniles who were specially precluded by the Factory Acts of 1937 from working overtime. At the time of writing, production in the cotton industry is still 20% below the minimum requirements for war purposes and 12,000 ex-textile workers are being ordered back from ordnance factories.

The lesson for us is carefully to prepare plans while there is still time. There is as yet no extreme urgency for concentrated production; there is an urgency for concentrated thinking so as not to be caught unawares.

British Standard Utility Cloths

Brief descriptions of cotton and rayon fabrics adopted for civilian purposes

By J. GUTHRIE OLIVER

SPECIFICATIONS have been issued recently by the British Standards Institute covering cotton, rayon, and cotton-rayon utility fabrics. For the duration, it is expected that cotton and rayon weavers will have to limit their production, other than for war purposes, to these fabrics. All the fabrics are to be sold under fixed ceiling prices and prices of garments made from them are also fixed. Extent of purchases is controlled by coupon rationing. Brief descriptions of the fabrics follow.

COTTON FABRICS: Following is a list of cotton utility fabrics:

Flannelette pajama fabrics: (4 types) Flannelette with a raised, but not sueded, finish ranging in weight 4¼ to 5 oz. per sq. yd. with 24s warp; filling is made from comber waste.

Shirtings: (10 types) Cheapest of these is a poplin weighing 3½ oz. per sq. yd. with 32s warp and 30s filling. Most expensive is a woven-stripe poplin; colors in stripe are fast to bleaching; warp, which is of 80/2 Egyptian cotton, has up to 30% color; fabric is bleached and mercerized; alternative fabric has up to 10% color and 5% esterified yarn; not more than four colors are permitted including ground.

Dress cloths: (12 types) Best fabric is a 3 oz. per sq. yd., 144x76 poplin made from 100/2 Egyptian cotton combed and gassed and sold with mercerized finish.

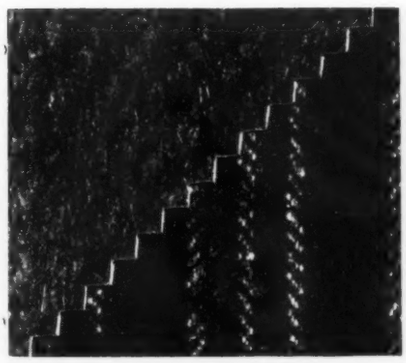
Light overall cloths: (3 types) These comprise two cambrics, one of 24s and the other with 32s warps and 16s filling. There is also an imitation linen made from 13s.

Terry toweling: (2 types) Best is a bleached cloth woven 2 ground, 2 terry in a 3-pick weave; not less than 2¾ yd. pile warp per yd. of ground warp; warp is 14s, with 6s condenser terry, and 12s filling.

Gabardines: (3 types) Best is a fine 182x104 gabardine dyed and waterproofed in 2x2 twill and made from 80/2 Egyptian combed and gassed yarn.

Fustians: (10 types) These include a heavy corduroy weighing 20-oz. per sq. yd. with 24/3 warp, 18s filling.

Heavy overall cloths: (8 types) There is nothing remarkable about these cloths, which are in keen demand; they are well made and most are fully-shrunk.



Two woolen utility fabrics: Solid color fabric weighs about 10 oz. per yd. and is suitable for women's skirts or suits. Other fabric weighs about 16 oz. per yd. and is suitable for men's or women's suits and women's overcoats. Specifications for wool utility fabrics, similar to those for cotton and rayon fabrics, have not been issued as yet.

Velveteens: (4 types) These include a needle-cord (calico back) with 18s warp and 20s filling.

Lingerie sateen: (1 type) Dyed and schreinered five-shaft sateen.

Calico longcloth, flannelette: (3 types) Two types are made with 24s warp and filling; flannelette has condenser yarn for filling.

Linings: (10 types) Included is a 5-shaft twill cotton and rayon mixture with warp of 6,700 rayon ends.

Corset cloths: (9 types) Included is an 8-shaft 150-den. rayon warp sateen, with 20s cotton filling.

RAYON LINGERIE FABRICS: Following is a list of rayon lingerie fabrics.

Crepe satins: (3 types) One each all-acetate, all-viscose, acetate warp and viscose crepe filling.

Plain-weave crepes: (3 types) One all-acetate with crepe filling; and others of 75- and 140-den. acetate warp and 75- and 100-den. viscose crepe filling.

Sheer crepes: (2 types) One all-cuprammonium and one with viscose crepe in warp and acetate filling.

Flat fabrics: (3 types) Two all-acetate and one 100-den. all-cuprammonium; one of the acetates has 140-den. dull yarn in the warp and 150-den. abraded filament filling.

RAYON DRESS AND BLOUSE CLOTHS: Following is a list of rayon dress and blouse fabrics:

Spun rayons: (20 types) Five of these are composed of mixtures of 85% viscose and 15% acetate and woven in 18s cotton counts; most of the cloths are crease-resisting; there is one with over 3-in. staple, and several with spun viscose white and black (80% white 3-den. fil., and 20% black); one cloth is composed of 15s spun viscose in mixed deniers (50% 3 den. and 50% 1½ den.); another line is a spun viscose waste fabric in 9s.

All-viscose marocains: (2 types) 150- and 100-den. warp with 150-den., 55 turns crepe filling.

Acetate and viscose crepes and marocains: (7 types) All with acetate warp ranging from 75- to 140-den. and viscose crepe filling of 75 to 200-den. and, with one exception, 55 turns; exception is a viscose crepe filling of 100-den., 40 turns with 75-den. acetate warp.

All-acetate crepes: (2 types) 100- to 140-den. warp with crepe filling.

Acetate and viscose satin marocains: (2 types) Usual acetate warp and viscose crepe filling in 2x1 twill.

Acetate and viscose fancy crepes: (3 types) One has 75-den. acetate warp with viscose crepe of 150-den., 55 turns filling; up to 16 dobby shafts used.

Crepe satins: (3 types) All 5-end with either 75-den. acetate or 100-den. viscose warps and viscose crepe fillings; one fabric 75-den., 55 turns filling.

All-acetate crepe satins: (2 types) 5-end acetate crepe filling.

Flat fabrics: (3 types) Same as for lingerie fabrics.

Jacquards: (3 types) One has 140-den. acetate warp and a filling composed of 150-den. viscose flat and 75-den. viscose crepe with 55 turns.

Cuprammonium crepes: (2 types) One has viscose crepe filling.

RAYON LINING FABRICS: (7 types) These comprise twill, satins, crepes, and taffetas; the twills are all-viscose of 150-den.; the satin has 75-den. acetate warp and 100-den. acetate filling; all crepes but one have 140-den. acetate warps and either 75- or 100-den. viscose crepe filling; taffetas are either 140-den. acetate or 150-den. viscose warp and filling.

Group Coordination, a Real Solution

Five hosiery mills pool experience, gain strength and "institutional" character

"WILL WE BE IN BUSINESS a year from today?"

That important question confronts every industrialist. It confronted Edward S. Jamison, president of James Jamison Co., New York hosiery sales organization, and, in developing an affirmative answer, he and his associates struck a new note in the relationships of a selling house with its mills.

In a few words, the answer involves deeper, fuller, more detailed coordination and cooperation than was ever the rule before between mills within one selling organization. The answer was affirmative because the executives of the mills and the sellers agreed that establishment of an "institutional character" was the one assurance of permanence in a rapidly changing world.

This specific instance of group coordination which is now unfolding involves five hosiery mills and the house through which they have been selling. The mills are Joseph Black & Sons Co., York, Pa.; Marshall Field & Co., Hosiery Division, Fieldale, Va.; W. B. Davis & Son, Fort Payne, Ala.; Sulloway Hosiery Mills, Franklin, N. H.; and Southland Mills, Fort Payne, Ala. Together they have an output of some 35,000,000 pairs of stockings—full-fashioned, seamless, half-hose, anklets, in rayon, cotton and wool. These goods are merchandised by James Jamison Co. to selected wholesalers.

Recognition that each of these five mills could contribute something to the efficiency and progress of the other four, led to the calling of the first "Coordinators' Meeting" last January. A second was held in May, a third is coming along this month. At the start only the active chief executives of each unit attended the meetings, but it is planned now to include plant managers. In plant visits, which are part of the plan, department heads are included.

THE PERIODIC MEETINGS take the form of miniature conventions, with a presiding officer, an agenda, and informal speeches and exchanges of views. They are miniature only in the number of persons involved, for in subject-matter those attending tackle the biggest immediate problems and probe deeply to get the soundest opinion upon them.

The executives who are coordinating their brains and ingenuity in manufacturing and merchandising—(left to right) rear row: Edward S. Jamison, president of James Jamison Co.; Emory H. Goode, hosiery mill manager, Marshall Field & Co.; F. Guy Henley, treasurer-manager, W. B. Davis & Son; E. J. Fitzgerald, general manager, Joseph Black & Sons Co. Front row: Richard L. Thompson, general manager, Sulloway Hosiery Mills; Robert E. Davis, president, W. B. Davis & Son; George P. Hall, James Jamison Co.; Robert E. Davis, Jr., president, Southland Mills.

The smallness of the group and the unanimity of its purposes are assets in producing unfettered and fruitful discussion.

The Jamison firm now refers to itself as a "coordinator," in its advertising, on its letterhead. It supplies to the group activity constructive development of merchandising policies, and encourages the give-and-take and intervisiting between the managers and technical men of the producing companies. Its executives are constantly on the look-out for suggestive, stimulating and practical slants on current problems, and bring to the meetings the broad view of the man in the tower.

The backbone of the plan is the constant drive toward development of "institutional character." In this the guiding principle is that permanence in business is proportionate to the degree to which an institution dominates its products. The war and its aftermath will be a severe test of the permanent quality of American business, and these intrepid hosiery manufacturers are making every effort now to earn and maintain the public's regard so that such rehabilitation as may be necessary later may proceed with support of a public which respects their sponsorships and values their recommendations. The vital good-will asset of a manufacturer, it was pointed out, exists only in the minds of his customers—it is entirely apart from his plant and other facilities, and subject to slow growth.

Based on the principle of institutional character are merchandising policies designed to keep the hosiery production from the five mills, in millions of pairs, moving in an orderly manner from the mills through selected wholesalers in a national program of low-cost distribution. Consumer contact comes through 30,000 retail stores who in turn are the customers of the selected wholesalers. These wholesalers anticipate and finance the retailers' requirements, and bring about a stabilized low-cost distribution of standard quality hosiery.

The Jamison company has a planned

advertising campaign supplemented with retailer helps, display material and dramatized presentations which it supplies to retailer or wholesaler as the need may be. It keeps the wholesalers' salesmen informed by suitable mailings directed to their homes. Photographs are freely used and cooperative tie-ups effected (such as the promotion of Ivory Soap flakes with La France hosiery, the Marshall Field brand). For the Bachelors' Friend (Joseph Black & Sons Co.) line of half-hose, the guarantee of six months' wear or six new pairs, the attractive floor cabinet, the slogan "Knit proportioned to fit," and the seal of approval by the American Institute of Laundering, are the featured selling points.

IN THE DECEMBER LULL on the primary market, Jamison salesmen get behind-the-counter jobs in hosiery departments in retail stores. Their knowledge of consumer preferences comes from actual contact experience.

Employee-employer relationship is a top-rating subject in the coordination plan. The merchandising brochures for the various lines are sent to all employees of the mill involved, together with a personal letter stressing the fact that he or she is a part of this.

IN ADDITION TO the civilian business, the letter recently sent to Joseph Black employees praised their fine work on Government contracts and closed with this paragraph—

"Your continued support in beating production schedules so that we get our socks to the various Government forces in time to meet the requirements of our boys, may well be called doing your bit to the very best of your ability."

At the May Coordinators' meeting, considerable time was devoted to discussion of training employees as job instructors, and experiences along this line were exchanged. Likewise replacement of men by women was analyzed. Other subjects on which there was instructive exchange of opinion included price ceilings, general improvement in mill operations by time and motion study, and in other ways; the raw material situation; conservation of packing materials; comparison of mill costs, systems for cleaning machines, etc.

At the May meeting, held in York, Pa., Richard Cole, the local WPB representative, was invited to sit in, and at one session he contributed practical information on the workings of the Production Requirements Plan, PD-25A, etc.

As the coordination plan has progressed, enthusiasm on the part of those involved has increased. Joseph Black has already put into effect little changes in manufacturing method as a result of a visit by its executives to Sulloway. As the give-and-take proceeds, further tightening up and improvement in mill processes in all the five plants are expected. Technical questions may be quickly answered by one in the group who has had the necessary experience. Emergencies may be eased by some exchange of materials where one mill has the need and another an available supply. Standards of quality and service will rise, and the executives feel that the coordination plan will assure them of being in business for numerous better years to come.

Textile Activity at New High

TEXTILE PRODUCTION continues at unprecedented levels. TEXTILE WORLD's Index of Textile Mill Activity for the first half of 1942 was 7% above that for the first half of 1941. That means that activity in the first six months of this year was at a rate nearly double that of the assumed normal (1923-25); our index thus far in 1942, based on the first half, is 193, as against the previous record of 188 in the calendar year 1941. It also compares with the records set successively in the preceding two years: 142 in 1940 and 132 in 1939.

It must be emphasized, however, that this boom condition is not spread evenly throughout the industry. Many firms have been crippled by shortage of raw materials. Furthermore, peak production has about been reached even in the war-goods zone, and the outlook for the balance of the year is for some recession in the activity index, rather than for new high levels.

By individual fibers, cotton consumption in the first half of 1942 was 9% above that in the corresponding period of 1941; filament rayon was 6% up and rayon staple was 18% up. Wool was practically the same as last year.

TEXTILE WORLD's textile mill activity index from 1929 to date follows:

1923-25 average = 100

1929	115	1936	124
1930	89	1937	125
1931	93	1938	103
1932	83	1939	132
1933	104	1940	142
1934	90	1941	188
1935	105	1942 (*1st half*)	193

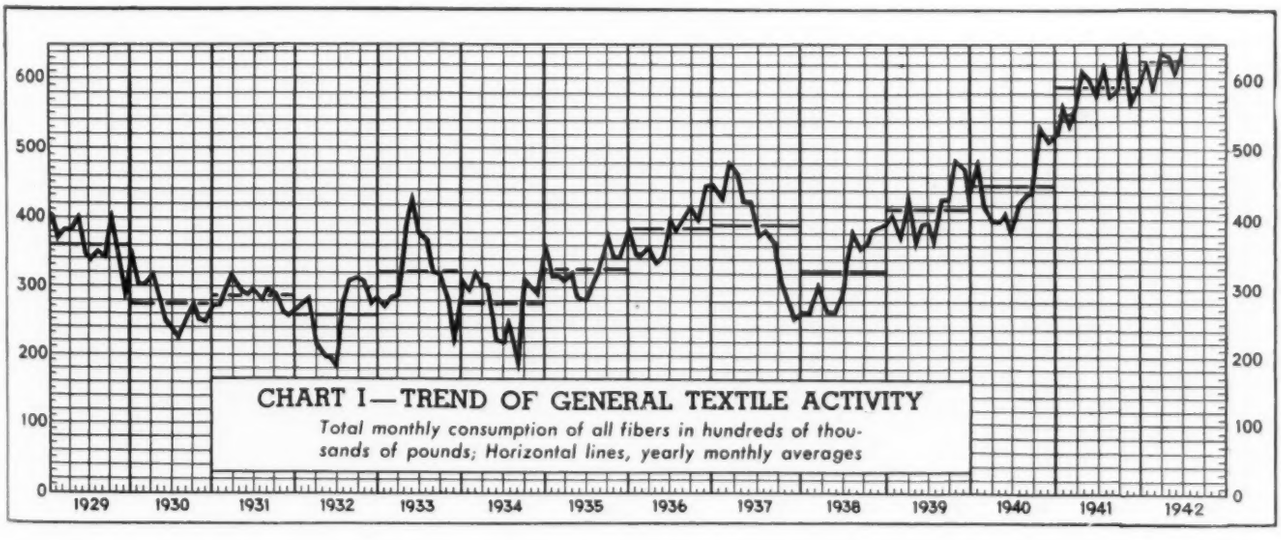
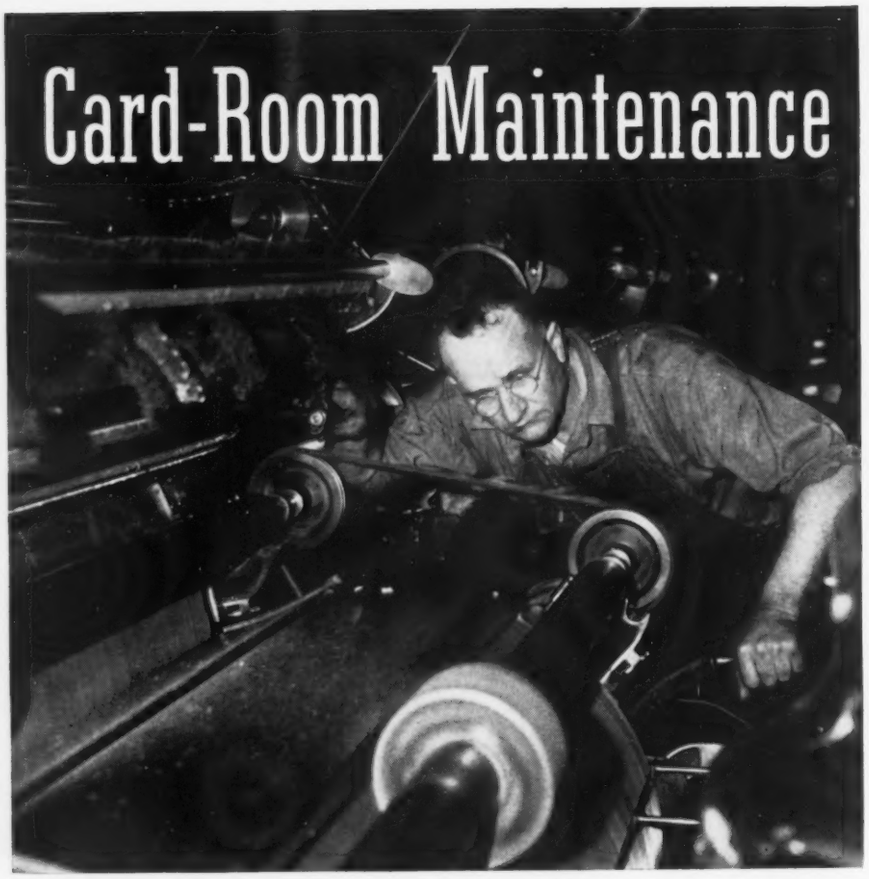


CHART I—TREND OF GENERAL TEXTILE ACTIVITY

Total monthly consumption of all fibers in hundreds of thousands of pounds; Horizontal lines, yearly monthly averages

Card-Room Maintenance



Wartime conditions call for extra care in inspection, lubrication, and cleaning

By E. H. HELLIWELL

ANY EFFECTIVE MAINTENANCE PROGRAM starts with the installation of new machinery and follows consistently and systematically throughout its entire operating life. The program, if faithfully carried out, will greatly lengthen the life of the machines, reduce stoppages from breakdowns, maintain the quality and quantity of production, lessen the cost of part repairs and replacements, reduce the amount of unnecessary work performed by the operator, and improve the morale of the entire working force.

Different types of machinery require different treatment in details, but there are general fundamental maintenance functions that are equally applicable to all machines from the opener feeder to the roving frame.

The first, and probably the most important step in a successful maintenance program is taken on at the completion of the installation by the machine builder's erectors. This acceptance inspection is the responsibility of the department head and should include a thorough checking of all specifications in the original order, correct fitting and adjustment of every part, level and alignment of machine, specified speeds and production, required quality of product, and any variations in uniformity within the limits specified.

Defects or deficiencies overlooked at this inspection will result in imperfect operation and product, or the cost of necessary corrections must be borne later by the mill management.

THE BREAKING-IN PERIOD is the most important in the life of the machine. An experienced, competent erector should be permitted unrestricted leeway in determining how long new machines should be run without stock, to run in all bearings thoroughly. Machine-fit tolerances are intentionally made close on new machines; and any rough spots, metallic filings, or abrasives present will cause scoring, excessive wear, and overheating. The erector should detect any hot bearings, clean them out, and flush with the proper lubricant. The few hours lost in this longer running-in period is repaid amply by the better running of the machine throughout its subsequent life.

Lubricants of suitable grade and viscosity, applied properly at the required frequency, are the best insurance against machine-wear of parts and the finest assurance of uninterrupted machine operation. The machine builders have done extensive research work in determining the correct lubrication methods applied to their own particular types of machines, and their recommendations can be followed closely with good results. The oil companies can furnish valuable information on lubricating procedure, and the grade and viscosity of their products will be found consistently uniform at the temperatures specified.

Essential to all successful lubrication schedules is a written chart showing the lubricant used, the frequency of application, and by whom applied, this chart listing every type of bearing on the machine. No complete job of lubrication can be expected if it is left to the pleasure and discretion of section men, oilers, or operators. A frequent check is necessary to see that all details of the lubrication program are properly executed.

Although cleaning schedules are a part of the routine operation of the machine, adequate cleaning and scouring methods should be considered as an essential part of any maintenance program. No machine can be maintained in good operating condition without thorough, systematic cleaning at regularly established intervals. These programs should be made to fit the type of machine, the quality standard, and the machine production schedules. Higher production and super-quality will demand increased cleaning and scouring. The periodical scouring—whether done quarterly, semi-annually, or annually—should be a complete job with machine stripped down so that every part is accessible for cleaning and examination. Routine cleaning schedules should be posted in a prominent place, and all operators should be impressed with the importance of following these out in every detail at all times.

The scouring period offers an exceptional opportunity for a thorough inspection of every machine part. It is from these machine inspections that the true verdict is received as to how well the maintenance program is functioning. It is a real check on the efficiency of the lubricating and cleaning schedules and the correct adjustment of machine parts.

[In subsequent articles, Mr. Helliwell will discuss lubrication, cleaning, and scouring schedules, machinery inspection and forms.—*Editor.*]

Maintenance of Cotton Combers

Cleaning, oiling, and overhauling at Green River Mills carefully scheduled

COMBED YARN MILLS are experiencing a sustained demand for their products for Government consumption. Restrictions on new machinery have made it increasingly evident that existing equipment must have the best possible care. Proper cleaning, oiling, resetting, and overhauling will help reduce damage to parts, especially the needles of the top comb and half lap. The system followed at Green River Mills, Inc., Tuxedo, N. C., for maintenance of combers has proved beneficial in keeping the machines in good running condition. There are 12 Nasmith-type Whitin combers in this mill, combing 54-grain sliver from a 600-grain lap with a production of 12 lb. per hour per comber. The schedules for cleaning, oiling, overhauling, etc., have been carefully worked out. Naturally, they may have to be modified somewhat to meet the operating conditions encountered in other plants.

Needles are the heart of the comber, according to George W. Boys, vice-president, of Green River. Top-comb needles are particularly vulnerable, since one row of very fine specially tempered needles must do the same work of 17 rows of half-lap needles. To prevent damage to top comb needles, thick places and chokes must be kept out of the comber. Attention to spreading the lap over the full width of the ribbon lap spool at start of a doff will prevent thick places. Laps are doffed when piecings are made, and the part laps carried to the comber. Top combs are so easily thrown out of adjustment that they are checked and reset once every two weeks. In addition, the fixer checks each head every morning and cleans the top comb and half lap. This daily check also reveals any disturbance of top comb setting. Half-lap needles are not so delicate as top-comb needles, but they must have proper care. Attention to the condition of the brushes which clean the half lap will insure proper stripping of the half lap and prevent chokes. Comber needles have been imported from England, and at the present time, comb repair shops can get needles, but shortage of solder for holding the needles in place is acute. Unless a substitute is secured, serious stoppages may occur.

Proper setting of the top comb and half lap help to insure good combing. Combers may be set to run smoothly, but still produce poor work. Proper settings secure good even sliver and piecing, low loss of long staple, and good production. Hence, all settings are made to standard.

Rolls, both detaching and draw-box rolls, are varnished with a good grade of recommended varnish every week. Damaged or uneven detaching rolls cause loss of good fiber in combing. Roll studs that are worn or bent are replaced. Rolls are recovered as often as necessary to get good work.

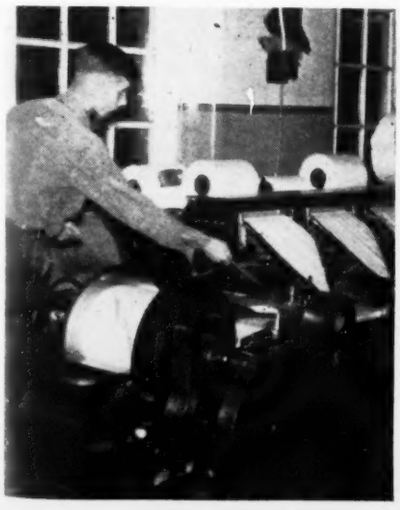
CLEANING OF COMBERS on a regular schedule is important; a part of each operator's duty is to keep the combers clean at all times, with assistance from the fixer in cleaning the top and half-lap combs as mentioned above. Operators that know how to use brushes get better work. Parts controlling the lap, web, or sliver are kept polished and free from dirt, oil, or excessive moisture.

Oiling of combers is done by the fixer with recommended lubricants. Fast-moving parts are oiled each 8 hours, and slow-moving parts every 24 hours. Cams are greased once a week. Oil holes must be kept open.

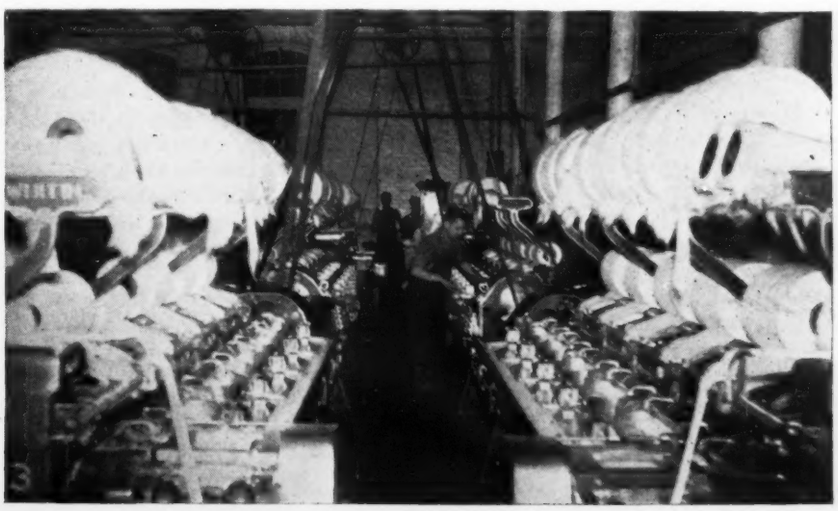
Overhauling the combers on a regular schedule does much to keep them in prime operating condition and thus increase production by preventing excessive stoppages. Each comber is dismantled every 12 weeks, cleaned thoroughly, examined for worn or broken parts, and reassembled with clean, repaired or new parts. Pans and sliver table are polished and the machine is carefully oiled and greased. Next the comber is reset to the standards and the sliver weight and waste output are checked. The comber is then put into production and another comber is dismantled.

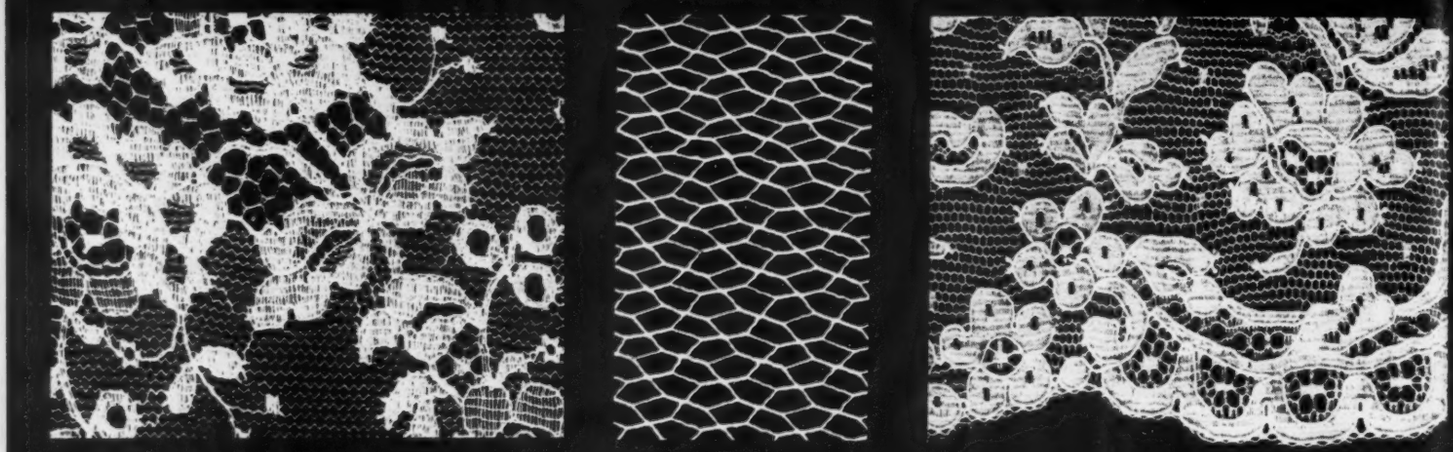
Humidity is a big factor in prevention of lap-ups. Detaching rolls when too dry create static that causes lap-ups. This is particularly noticeable on start-ups over the week-end. Proper control of humidity, from 57 to 62% relative humidity, over the week-end, assures a good start-up with few lap-ups. Pans and sliver tables are rubbed with whiting to keep off moisture over week-ends.

Operation of ribbon lapper; doffing after piecing-up saves comber.



Clean combers assure steady operation; operators clean fronts and fixers clean top comb and half lap.





(Left) All-over lace fabric for evening dress. (Center) One of many nets for use in stockings. (Right) Edging lace for use on underwear.

Apparel Laces Boom

Rhode Island industry benefits from lack of imports and from style changes

By GEORGE H. ARRIS

NOTABLE IN NEW ENGLAND for having passed through sharper ups and downs in the last decade than any other industry, Rhode Island lace manufacture is currently hitting a fast clip, thanks to the war and the need for curtailment of many fabrics used in the production of women's wear.

More than 30 mills in Rhode Island employing upwards of 4,000 operatives supply approximately 60% of all apparel lace made in the United States.

New York designers, pressed with the need of cutting a few inches of cloth here and there from women's lines for fall and filling the gap with trimmings, have planned a large percentage of all garments to be either all-lace or lace-trimmed. Conservation is the keynote and "lace for morale" sets the promotion tempo, since it is argued that frills and furbelows are feminine and soldiers want their women feminine.

Lace mills are being called upon to produce, in addition to the customary line of dress and trim materials, a long list of nets and laces to be manufactured into stockings, shoes, costume jewelry, pocketbooks, corsets and (combined with plastics) hats. The materials now are principally cotton, rayon, and, lately, wool. The promise of spun-rayon fabrics is held forth in mill experiments now under way.

The industry is having its first opportunity to prove that fine Levers laces and entirely new adaptations can be made with American machines and labor as skillfully as in France and Belgium. Clipped laces are being made in a Pawtucket mill for the first time in this country. Work being done in a dozen mills equals—perpetuates is a better word—that formerly found only on the Continent. In the U. S. there are in all some 640 Levers machines.

The lace trim volume is extremely heavy, and so, too, is that in fine laces for evening dresses. But new to the trade are the close mesh designs for street and afternoon dresses and for sportswear, which are being turned out for the popular price markets and which can be worn without an under-lining.

Mills in the Rhode Island area are not running around the clock, although a great many of them have put on second shifts in recent months, which is, indeed, the opposite end of the cycle from a year and a half ago when lowered tariff bars had allowed lace imports to reach an all-time peak and domestic production to slow to a virtual standstill.

The import high and the operations low in domestic mills came in October, 1940. Hitler had occupied Belgium and France, writing finis to lace production and marking the turn in the affairs of mills here. Lace imports, which from 1938, when the Hull trade agreement was signed with France, until mid-1940 had soared some 2800%, ceased. And a competitive situation wherein mills here, paying weavers $38 a week and hand labor $15, were ranged against $9 weavers and $5 hand labor in France, came to an end.

Since October, 1940, the rise in domestic production has been consistent and sharp. From that month until the end of 1941 it amounted in Rhode Island to 130%, and although this is a notable gain, it does not reflect the broad increase in demand built up since Pearl Harbor or the decision of designers to put lace in many places it never was found in before.

LABOR SUPPLY, for the present at least, is not a source of worry in this industry, as it is in numerous others, because virtually all the hand work is done by women, and most of the weaving help is outside the immediate draft call. A tight little guild, the main body of lace workers in this area is made up of craftsmen who have been in the lace business all their lives. Most of the mill executives, as a matter of fact, either came from England years ago or are the sons of men who came from that country to establish the industry here. They, with their employees, know lace, and they are applying that knowledge to good advantage. Although long unemployed during the worst of the "tariff depression," few lace craftsmen slipped away from the industry.

The industry obviously is happy about this favorable turn to business, but it is even more enthusiastic about the opportunity to apply ingenuity in the development of new products. It is not only equalling the fine work of French weavers, but is going the French one better by manufacturing laces for all sorts of uses heretofore believed entirely foreign to the industry. Equipped to do little war work, the industry, nevertheless, is conducting experiments on two types of fabrics for the Army, one of which, if successful might well revolutionize an Army equipment item.

Fibers Grown in Western Hemisphere

Replacing those formerly imported from Far East; new sources being developed

FIBERS grown in the Western Hemisphere already are taking the place of those formerly imported from the Far East. But much larger quantities are required to meet military and essential civilian needs for ropes, cables, cords, twine, bagging, and other items made from the long vegetable fibers. There is a belief in some circles that eventually the Americas can increase production of these fibers to a point of self-sufficiency. Below are outlined briefly the steps now being taken.

Abaca or manila hemp is perhaps the most urgently needed fiber today. In 1941, United Fruit Co. had 2,000 acres of abaca planted in Panama. The United States Government through the Export Import Bank and the War Production Board has furnished money and machines for increasing the planting in Panama, and possibly Costa Rica, to 20,000 acres; yield after 20 months is estimated at about 225,000 lb. Piassava, grown in Brazil, is suggested as substitute for manila hemp.

Sisal and henequen or Yucatan sisal are two varieties of the agave plant: henequen, is grown in large quantities in Mexico; production there in recent years has been about 100,000 tons annually, of which approximately 90% was imported by the United States. It also grows in Central America, Haiti, the Bahamas, Cuba, and San Salvador; experimentally in Puerto Rico and Florida; an agreement has been reached whereby sisal production in Haiti will be doubled. Possible substitutes for sisal are aloe, which grows wild and under cultivation in Mexico; sanseviera or bowstring hemp which grows wild in South Carolina and Florida, and pita or maguey which grows wild in Mexico and Colombia.

Hemp will be produced in large quantities in the United States, according to an ambitious program started recently; a seed crop now growing on 36,000 acres of land—mostly in Kentucky, is expected to yield approximately 350,000 bushels of seed for planting—in Kentucky, Wisconsin, Minnesota, and Illinois—for fiber production in 1943; a minimum of 240,000,000 lb. of fiber is expected from this planting; the Commodity Credit Corp. distributed the seed to growers on a prearranged price basis. The Board of Economic Warfare is exploring the prospects for encouraging growth of hemp in Cuba and tropical America; substantial quantities are being grown in Chile, smaller quantities in Peru, and large-scale production is contemplated in Argentina.

Crotalaria or Sunn hemp has been planted on several hundred acres in South Carolina, but, according to recent reports, the fiber is not being utilized at present. Caroa, or coroa, which grows wild in Brazil, is a substitute for hemp and Manila fiber; about 100 tons was shipped to United States the first quarter of this year and larger shipments are being negotiated.

Ambari hemp, also called Bombay hemp, and Roselle fiber are not grown in the Western Hemisphere at present; however, cultivation of both has been suggested by a leading fiber authority.

JUTE GROWS under cultivation in Argentina and Brazil, and could be grown in Colombia; Argentina has recently planted about 30,000 acres, and Brazil has increased her plantings. Malva or uacima grows wild in Venzuela, Brazil, Cuba, Haiti, and Colombia; it is regarded as a good substitute for Indian jute; various agencies of the United States Government have completed arrangements for expansion of productive facilities in Venzuela to permit manufacture of bags and to provide substantial amounts of the fiber for export to the United States; after assisting in the expansion program in Venezuela, a commission of U. S. Government experts will visit Cuba, Haiti, and Colombia for the same purpose; several species of malva grown in Brazil are being developed for use in making cordage, fishing lines, rope, twine, thread, and burlap.

Coir or coconut fiber is used for making cords, ropes, and matting, and has been suggested for sandbags and stuffing upholstery; mills for producing sufficient coir fiber to manufacture 3,000,000 bags annually are to be established in Puerto Rico with Reconstruction Finance Corporation assistance. Guaxima, hibiscus ferox, infuscata, and Papoula de Sao Franciso grow in Brazil and could be used in admixture with or as a substitute for jute. Urena lobata, which grows wild in Florida and Cuba is similar to jute; a small amount of fiber is in prospect. Yucca grows abundantly in the southwestern part of United States; it was used to some extent during the last war for making bale covering for cotton, and the suggestion has been made that the Government finance a processing factory.

Other cordage fibers produced in small quantities are cabuya, which grows in Ecuador; canamo, which grows in Uruguay; and fique, which grows in Colombia.

Ramie is being grown experimentally in Louisiana and Florida; attempts to utilize ramie commercially have met with little success (other than in making gas mantles); however, development recently of new types of decorticating equipment and of degumming processes said to produce fiber which is not brittle has revived interest in ramie.

Milkweed grows wild in various parts of United States; it has been suggested as substitute for kapok; in June, 1942, a factory was established in Petoskey, Mich., to process 1,000,000 lb. of milkweed floss to be used in life jackets and lining of flying suits for Navy; this will require harvesting of 10,000,000 lb. of pods from 50,000 acres of land in 5 counties in Northern Michigan.

Not related to the far eastern situation are flax and redwood bark.

Flax growing in the United States is centered in Oregon, where acreage has been more than doubled during last two years with Government assistance; flax has been grown experimentally in Washington for several years and it is reported that large-scale planting will be begun in that State; in recent years experimental plantings of flax have been made in Georgia. Flax is grown also in Canada and Chili. Nettle grows wild in various countries of the Western Hemisphere; in Germany it is used as substitute for flax.

Redwood bark fibers were introduced to the textile industry early this year by Pacific Lumber Co. for blending with wool; suitings, overcoatings, blankets, and other fabrics have been produced from such blends.

Imperfections in Woven Fabrics

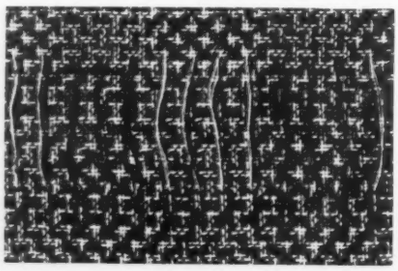
Definitions, causes and remedies for defects traceable to the weave room

By THOMAS NELSON
Dean of the Textile School
North Carolina State College

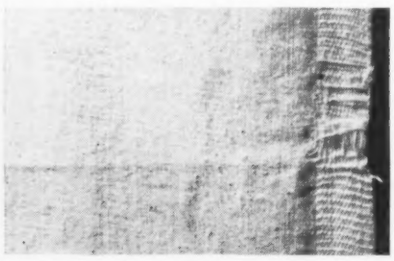
Previous articles illustrating fabric defects appeared in the March and June, 1939, May and November, 1940, and May, 1941, issues of TEXTILE WORLD. Illustrations and definitions of the first 16 defects, those presented in the March, 1939, article, have been included in the "Glossary of Textile Terms Relating to Textile Materials," issued by Committee D-13 of ASTM. The imperfections as illustrated and defined in the latter four articles are now being considered for inclusion in the glossary. In addition, the Army Quartermaster Corps has ordered several hundred reprints of the entire series for use in training field inspectors.

CONDITIONS under which fabrics are manufactured make it almost impossible to eliminate all fabric defects. But defects can be reduced considerably through proper use of a system by which the different defects can be indicated and traced to their sources. One practical system is for the grader in the cloth room to indicate on a special form, each defect as it appears in the examination of the fabric. At the same time the examiner should clip to the selvage a narrow strip of paper to indicate that there is a defect at that point. This enables the second hand, overseer, or other person who is responsible for loom production and quality readily to find the defective places in the fabric.

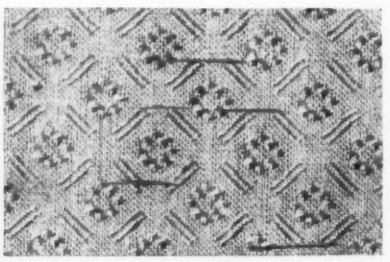
Records should be kept of the different looms and loom sections in which these defects were made. When defects appear often on the same looms and sections this indicates that there is something wrong with either the weavers or the loomfixer. The principal value of such a system is that by having the defects indicated at the loom, remedies can be applied.



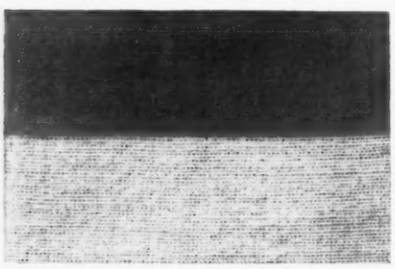
Dropped or Loose Ends—*Appearance:* Long warp floats on back of fabric. *Cause:* Harness shaft hanging too low to bring ends into shed; harness cords dropping between roller sheaves, or harness set too low. *Remedy:* Locate harness by following back through the reed; make necessary adjustment to level harness.



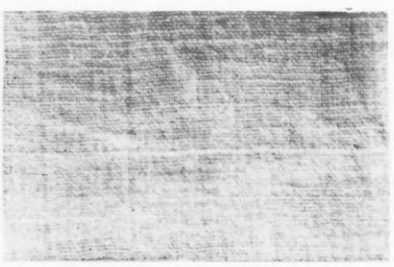
Bald Selvage—*Appearance:* Ragged, broken, or uneven selvage with loosely woven ends and filling overshots. *Cause:* Yarn too wide on loom beam causing crowding of drop wires; lint accumulated behind drop wires or harness; long-tail knots in warp yarn. *Remedy:* Make warps to correct widths, keep lint cleaned off warp.



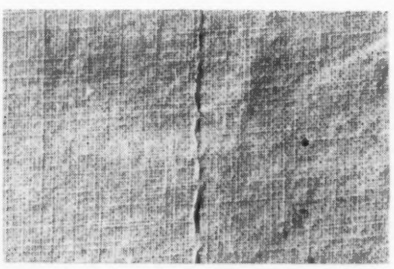
Dirty or Oily Filling—*Appearance:* Small dark streaks scattered throughout the fabric filling-wise. *Cause:* Side of shuttle dirty or oily; more noticeable when shuttle has been steeped in oil. Dirty shuttle box, readily detected at a regular distance from the selvage. *Remedy:* Clean shuttle and shuttle box with wiping cloth.



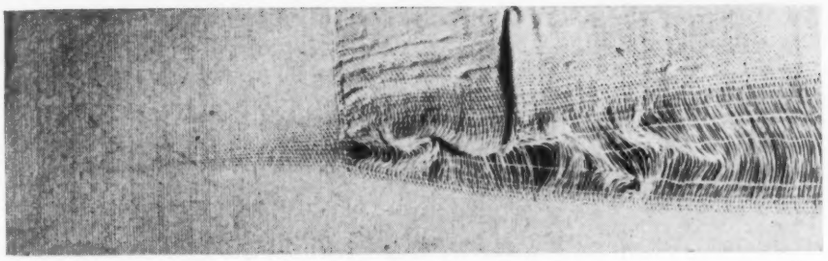
Mixed Filling—*Appearance:* Wide off-shade bar across the fabric; difference in hand between correct fabric and bar. *Cause:* Carelessness in handling filling at various operations; poorly trained service operatives; inadequate system of identification. *Remedy:* Be sure system of marking or identification is adequate.



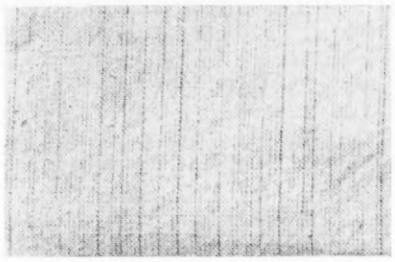
Double Pick—*Appearance:* Narrow rib of two picks in same shed running across the fabric. *Cause:* Filling bunch on quill not made correctly, filling feeler not working, weaver not catching pick after loom stops for filling break. *Remedy:* Correct bunch on quill, reset filling feeler, caution or instruct weaver.



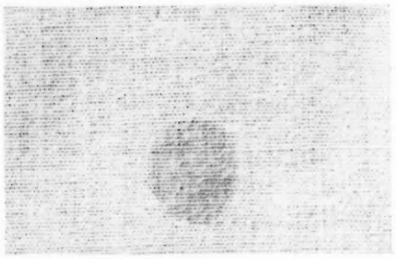
Floating End—*Appearance:* Long float on face of fabric, usually a single end; the end may weave in occasionally. *Cause:* End not drawn in harness eye correctly; end twisted around wire heddle. *Remedy:* Trace floating end back to harness and draw it in the heddle correctly. If practical have the defect picked out.



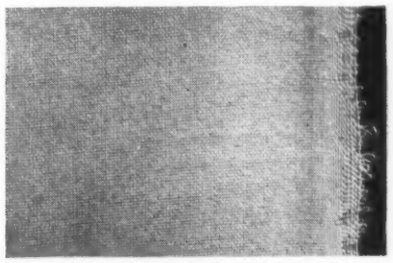
Open Place in Half Fabric—*Appearance:* Wide open place in half the fabric, which is a wide sheeting made from two loom beams. *Cause:* One warp beam slipped, allowing thin place to be made in half the fabric width. *Remedy:* Check over condition of loom beam and let off motion for cause of slippage.



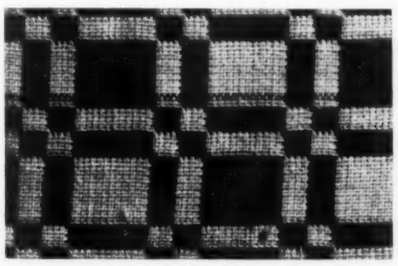
Reed Marks—*Appearance:* Streaks in the fabric running warp-wise. Two adjacent ends seems to be spread apart. *Cause:* Reed dents bent, or out of line; reed distorted by forcing on reed cap. *Remedy:* Examine, clean, straighten reed dents periodically; don't bend reed wires by turning reed hook.



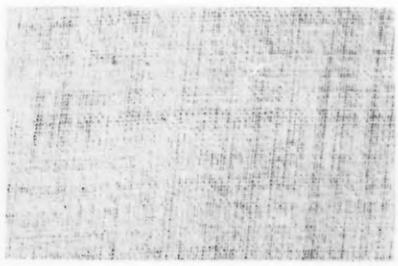
Oil Spots—*Appearance:* Dark brown spot shading to a lighter tone over a larger area. *Cause:* Oiler allowing oil to drip from can or bearing onto cloth; oil thrown by moving part. *Remedy:* Caution and instruct oiler; be sure oiling schedules are correct; have oiler carry cloth to clean drip.



Looped Selvage—*Appearance:* Selvage ends loose, loops on selvage. *Cause:* Insufficient tension on filling in shuttle; shuttle rebounding in box from too much power or too little check. *Remedy:* Re-tension shuttle; reduce power, box shuttle to stop rebound; check timing and shed on tape selvage.

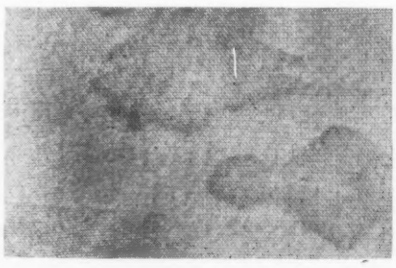


Mispick—*Appearance:* Single pick of wrong color at a point where it was not intended. *Cause:* Weaver did not find correct bar of box chain in starting up loom after a pickout, or boxes skipping. *Remedy:* Check box motion and have box fixed if necessary. Instruct weaver on setting box chain.

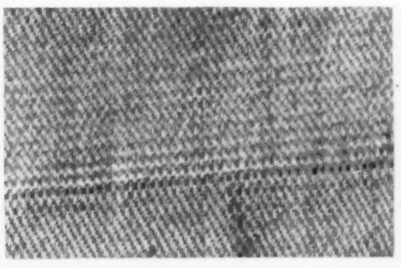


Uneven Fabric—*Appearance:* Filling appears to be beat up unevenly into the fabric; streaks scattered from selvage to selvage. *Cause:* Let-off motion letting off unevenly during weaving, or take-up motion not pulling fabric down evenly. *Remedy:* Examine and fix let-off or take-up motion.

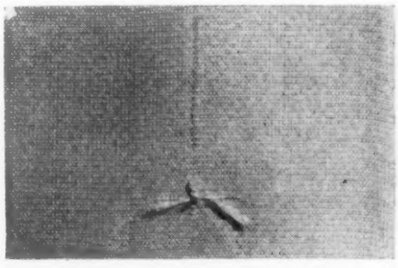
Mixed Warp End—*Appearance:* White end running warp ways in finished piece of dyed rayon fabric. *Cause:* An acetate end mixed with the viscose warp on the loom beam. *Remedy:* Tint acetate or viscose for identification; dye small samples of fabric to determine if yarns are mixed.



Water, or Rust Spots—*Appearance:* Shaded spots run from light inside to dark outside ring; varies with fabric stained. *Cause:* Drip from condensate on overhead pipes, or excessive humidity causing condensate on loom. *Remedy:* Inspect humidifiers and overhead structures.

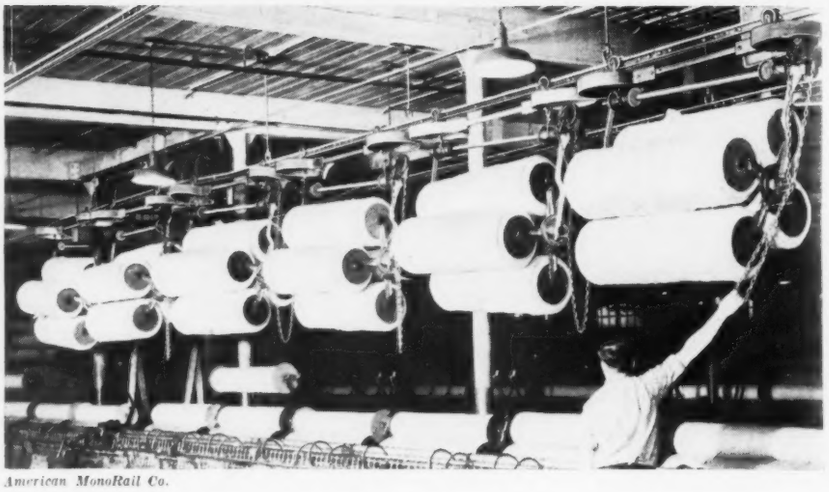


Irregular Twill Effect—*Appearance:* Twill line broken or diverted instead of straight. *Cause:* Starting loom without setting fell of cloth to reed; resulting thick or thin places, mispick, or starting shuttle in wrong shed. *Remedy:* Instruct weavers and smash hands to start looms up correctly.



Dirty Warp Ends—*Appearance:* Dark warp end usually ending at a knot. *Cause:* Weaver with dirty hands drawing or tying in a broken end, or loomfixer may have tied in end to observe loom operation. *Remedy:* Require weaver to keep hands clean and use wiping cloth.

Overhead monorail running from the card room to the spinning room of F. C. Huyck & Sons, Inc., Rensselaer, N. Y., plant with special trolley and spider permits the carrying of four jack spools. Each spider may be lowered or raised from the trolley, eliminating lifting of the 40-lb. jack spools by the operator in loading or in discharging spools. A ratchet is contained in the hub of each spider so it may be turned at will by the operator to bring each spool into any desired position to facilitate loading operations. Common practice is for a train of six units to be pushed from one room to another, permitting one operator to handle 24 jack spools.



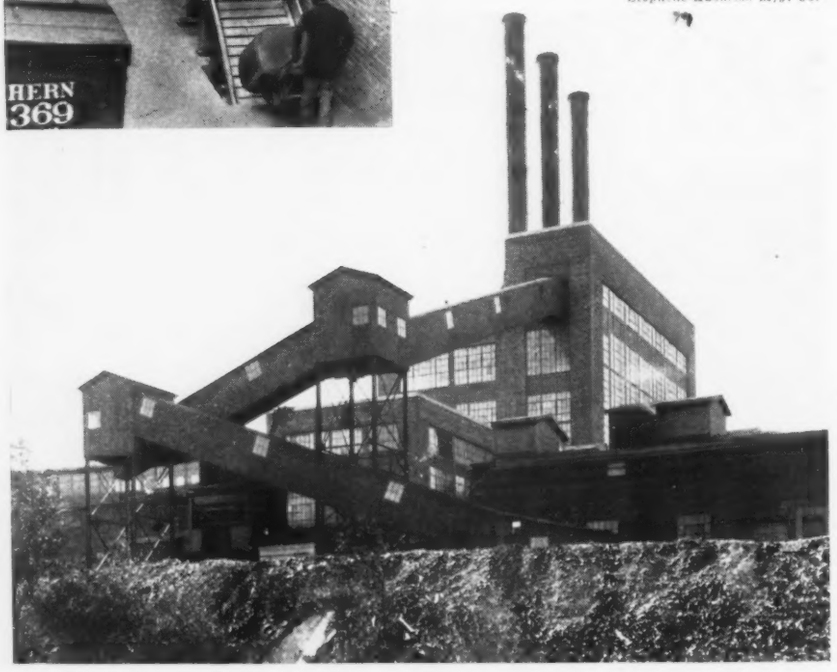
American MonoRail Co.

Intra-Plant Transportation Systems Aid

Standard Conveyor Co.

Inclined slat conveyor elevates bales of cloth at North Carolina Finishing Co., Salisbury, N. C., from the shipping platform to the second floor where they are automatically discharged to a gravity roller conveyor. The boot-end of the bale rests against a cleat on the conveyor which raises the bale to the roller discharge line from which it is manually removed. This type of conveyor is not limited to cloth bales, but may be used for handling bales of cotton in warehouses and at opening rooms in a mill previous to processing.

Stephens-Adamson Mfg. Co.

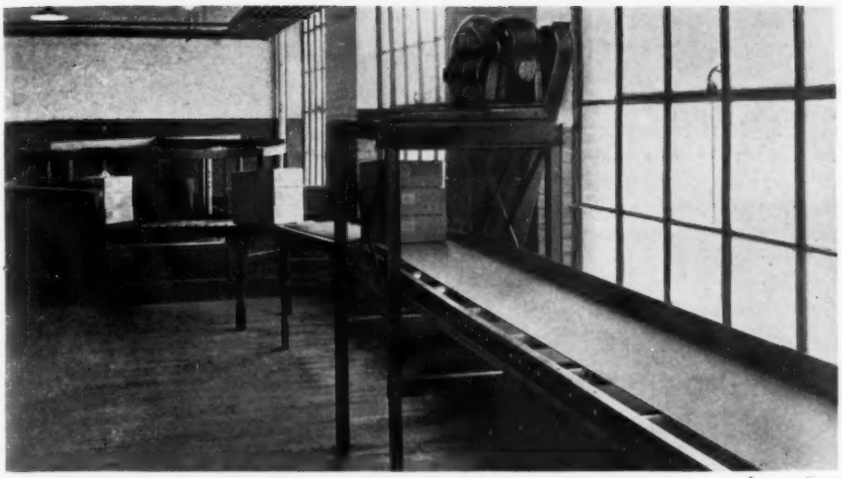


Coal-handling systems in mill power plants create large savings in handling costs. A system established at the Passaic plant of the Forstmann Woolen Co. handles 50 tons per hour. From a 2,500-ton storage area or direct from the railroad car, the coal is carried up an incline by conveyor to a large boiler room bunker. Such arrangements eliminate hand handling of coal and stoking.

WAR INDUSTRIES, the Army, the Navy, and other branches of the armed services are depleting rapidly the available unskilled labor in textile mills. Serious labor shortages require a mill to take stock of its methods of handling materials within a department, between departments, and between different mill units with view of efficient operation with a less number of operators.

A review of intra-plant transportation systems employed in some of the leading textile plants will provide inspiration as to labor-saving methods of handling various plant problems. Equipment, such as hand trucks, monorail traveling hoists of electric and hand-operated variety, belt conveyors, pneumatic conveying systems, etc., are a few of the many systems of handling materials ranging from loose textile fibers to the finished cloth in bale form.

Choice of specific types of transporting equipment depends on the operations involved and on the particular conditions of service that are to be met. The accompanying photographs provide



Lamson Corp.

Intra-department transportation is facilitated by conveyors, especially in the packaging and shipping departments, speeds the handling of packaged textiles, and permits operation with a minimum number of employees. A typical conveyor installation as that of the Scranton Lace Co., Scranton, Pa., combines many labor-saving features. Sections of conveyors that are horizontal present unusual opportunities for installing automatic scale-weight devices, packaging equipment, etc. The background of the illustration shows how a conveyor may be constructed to operate by gravity, the units sliding to the floor beneath under their own momentum.

Aid in Solving War Problems

By FRANCIS A. WESTBROOK

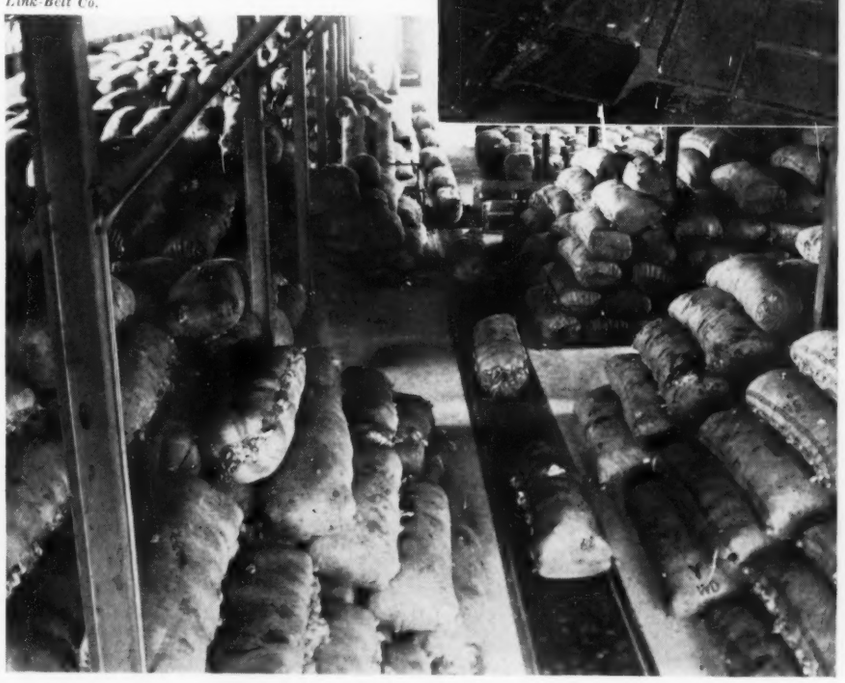
a brief survey of some of the present-day practices in a number of up-to-date mills, and are presented with the thought that they may suggest possible advantageous applications to textile mill executives.

Use of mechanical handling equipment in textile mills is not entirely confined to the movement of materials in the process of manufacture or of finished goods. Many large mills employ such equipment for the handling of coal, as at the Greenwood Mill, Greenwood, S. C. New boiler plant equipment recently installed includes a 125-hp. low-pressure Keeler boiler with automatic stoker firing, a 15-ton coal storage bunker above and in front of the boiler and a coal conveyor system for handling the fuel from the storage pile under the trestle on the railroad siding to the boiler room bunker. Before this system was installed the full time of a fireman was required for each of the three shifts to shovel the coal in a wheelbarrow at the pile under the trestle, wheel it to the boiler room and

Conveyor type truck hauls are especially useful in handling bales of cotton or any heavy bales, boxes, etc., that may be moved on hand trucks. Mathews Cotton Mill, Greenwood, S. C., installed a conveyor type truck haul to carry 500-lb. bales of cloth up a 20 degree incline about 30 ft. long to the platform level for shipment in motor trucks or railroad freight cars. Systems of this type may be employed for hauling trucks up any number of floors desired, eliminating the necessity of elevators and forming a continuous production line.

Link-Belt Co.

Link-Belt Co.



Wool storage in bale form always presents a problem in transportation and in handling. Bell Co., Worcester, Mass., has solved many of their problems with a reduction in the number of attendants required to handle the same number of bales by means of an elaborate conveyor system. Bales placed on a four-strand conveyor are carried to a central distribution belt-type conveyor for delivery.

stoke by hand. With the present arrangement, the attendant is able to spend three-quarters of his time on other work around the plant, and in addition more uniform steam pressures are maintained.

Roller conveyors are used extensively for handling boxes of bobbins and for many other purposes. They may be live rollers, or they may be gravity operated, and in some instances they are level where the line of containers is more or less continuous and it is an easy matter to push the containers by hand.

Lift trucks, skid platforms and portable elevators, or stackers, all find their uses in textile mills in the obvious ways. Stackers are especially useful in stacking heavy bales and cartons, etc. In addition, many different types of trucks have been designed to meet specific requirements. Among these are lap trucks designed to carry eight large laps and to be pushed by hand.

American MonoRail Co.

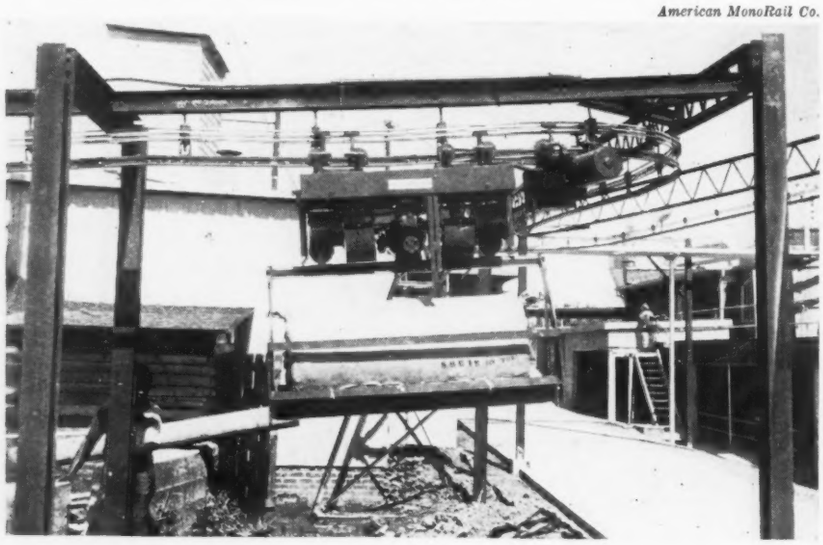
Cranes with electric hoists aid in stacking beams in warp storage, as at the Rosemary Mfg. Co., Roanoke Rapids, N. C. A beam at any position within a bay may be lifted and moved to any other point.

Cleveland Crane & Engineering Co.

A room 10 × 50 at the Hermitage Cotton Mills, Camden, S. C., fitted with storage-racks now accommodates 80 warps. Harnesses are attached to the warps and the beam stored with the harnesses downward, protecting them from damage. A hand hoist handles the beams.

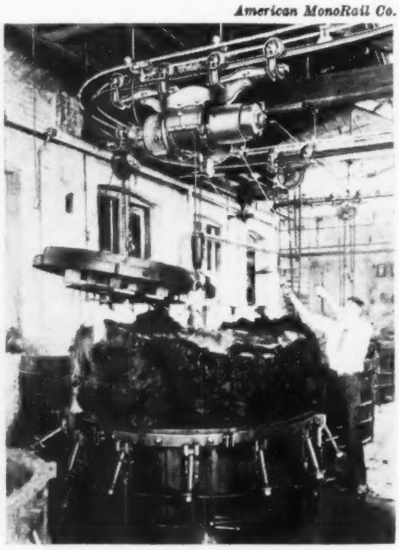
Transporting of heavy rolls of cloth between the mill and the warehouse is greatly simplified through the use of a monorail carrier as employed at Firestone Tire & Rubber Co., Gastonia, N. C. A heavy roll of cloth is carried in a cradle that is lowered by a built-in electric hoist. Motive power to pull the carrier between the mill and the warehouse is provided by an electric motor. Bus bars above the monorail provides electric power.

American MonoRail Co.



Charging and unloading of raw-stock dyeing kettles, as handled at the Firth Carpet Co., Firthcliffe, N. Y., requires the services of only one operator. An electric hoist travels on an overhead monorail for handling the charges of wool, hand hoists, sliding on the same track lift the dye kettle covers.

American MonoRail Co.

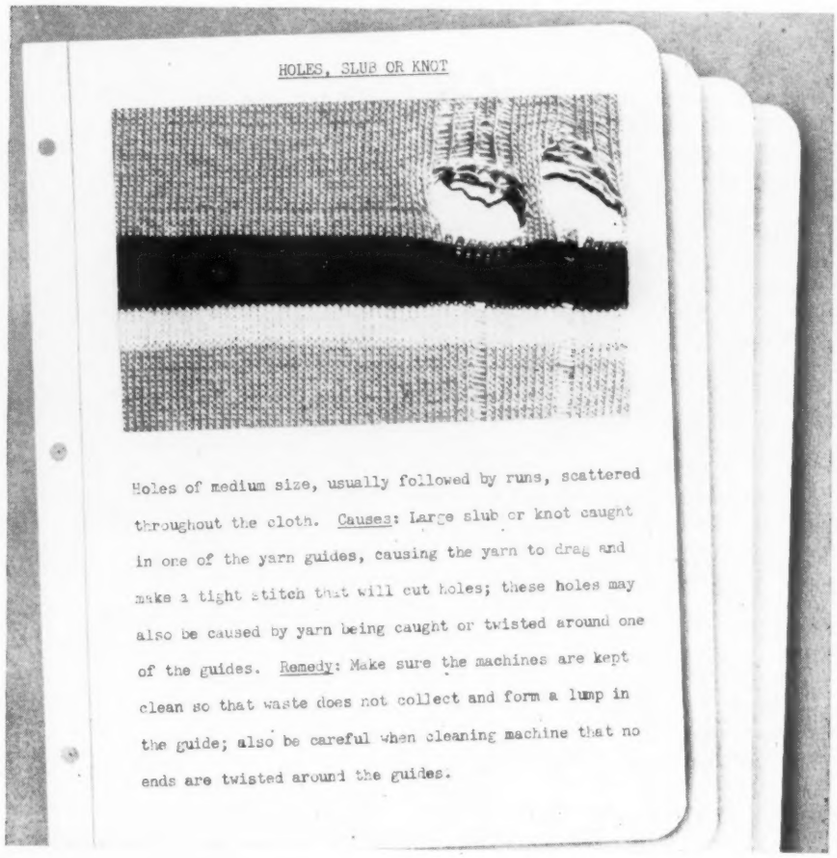


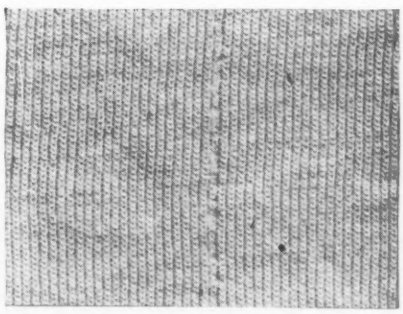
Defects Occurring in Knit Goods

Causes and remedies for faults commonly encountered in circular-knit fabrics

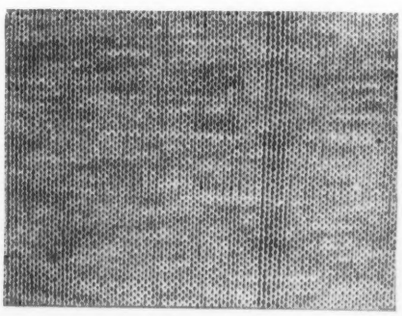
By F. J. QUILITSCH

A VALUABLE AID to the knitter is a file of samples of defective fabrics. These samples can be mounted one to a page, in a loose-leaf notebook or on cards. Below each sample should be written or typed a definition of the defect, together with notes on the cause or causes of the fault and the measures to be taken to prevent or remedy it. The defects can be arranged alphabetically, or in some other logical order. After a comprehensive collection of defects has been assembled, the knitter can refer to it whenever a defect occurs, locate a similar defect, and refresh his memory quickly as to its cause and the steps to be taken to overcome it. Some mills have found it well worth while to photograph defective samples, and to build up files of these photographs for various members of their operating and sales staffs. Occasionally it is necessary to intensify the defect before it is photographed in order to have the photographic print duplicate the appearance of the fabric. The defects illustrated on this page are from the author's collection. Others will appear in subsequent issues of TEXTILE WORLD.

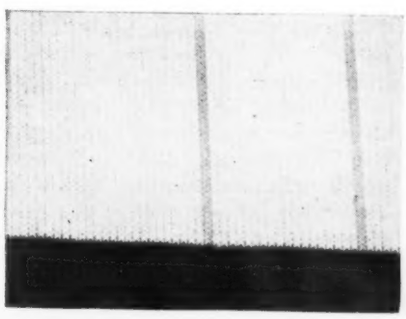

HOLES, SLUB OR KNOT
Holes of medium size, usually followed by runs, scattered throughout the cloth. Causes: Large slub or knot caught in one of the yarn guides, causing the yarn to drag and make a tight stitch that will cut holes; these holes may also be caused by yarn being caught or twisted around one of the guides. Remedy: Make sure the machines are kept clean so that waste does not collect and form a lump in the guide; also be careful when cleaning machine that no ends are twisted around the guides.



Fuzzy Needle Line (Left)—Fuzzy vertical line. *Cause:* Small piece of needle broken off near latch rivet, causing yarn to fray as it is drawn over this part of the needle. *Remedy:* Replace needle; if needles break often, check machine to see what is causing the needle to chip, something may be hitting the needles, such as a latch opener or carrier, or a bent sinker.



Sinker Line (Center)—Vertical line more open in appearance than rest of fabric. *Cause:* These lines are caused by an accumulation of lint from the yarn that collects in the sinker slot, raising the sinker; when the needles draw the yarn over these sinkers, it makes a longer stitch than it does when drawing the yarn over the sinkers that are set level in the cylinder, thereby causing these streaks. *Remedy:* If there are only a few of these lines, they may be prevented by taking out the sinkers that are causing them and cleaning out the slots with a thin blade. If there are many lines, take out the cylinder and give it a good cleaning.



Oil Streaks (Right)—Narrow, dark vertical streaks. *Cause:* Too much oil on the needles; if the needles are allowed to get dry and start to wear and then oil is applied, it will wash particles of steel into the cloth, causing these dirty lines. *Remedy:* Take out the needles that are making these lines and wipe off all the oil; if this does not stop the streaks, take out the needles that are making the streaks and run a fine blotter through the needle slot to blot up any excess oil that has accumulated in the slot.

By All Means, Discourage Cliques

Internal politics among workers in a mill impairs effectiveness; what to do

By JAMES J. JACKSON

IN PARTY POLITICS those whose policies and beliefs are thought to be most representative of the will of the people are elected to office. In the internal politics of an industrial plant an effort is made by a self-interested clique to obtain some real or fancied gain for its members regardless of the effect on the success of the organization as a whole. Existence of such politics in industry results only in decreased efforts by the personnel, loss of organization, and inevitably serious impairment of the concern's effectiveness.

Internal politics and cliques must be avoided by the executive, if he is to be a free man; and they must be stamped out of his organization, if he is to be very successful. The executive must study the causes of any internal politics he finds, watch how it works, observe the results of such activity, and treat it in a manner that will eliminate it.

AMONG THE CAUSES of internal politics and cliques are the following:

1. One of the most conspicuous causes of strife between employees which leads to cliques, is ambition. It is an admirable characteristic, provided the methods of attaining the ambitions are kept within the proper limits. But, it is a different matter when one man or group of men makes an effort to satisfy personal ambition at the expense of associates or employers. This often occurs when two companies are merged, or men are transferred from another department of the same company.

A study was made of such a condition in a department to which a group of men had been transferred. It was found that the new men were treated as social outcasts. The old employees made no effort to help the new men get accustomed to the job, and associated with them only when necessary. It was small wonder the transferred men were quitting to take a chance on getting employment elsewhere.

The reasons for the elimination of a smaller group in the case of merger, and for the quitting of the new men in the case of transfer, seem to be pretty much alike. In both instances there is a common bond between the "old hands." They have been together for some time and they accept each other as part of the gang. They have a feeling that the new men may cut in on their jobs in case of slackening of work at a later date. To reduce this chance, they make no effort to help the new man, and they may make it rather uncomfortable for him.

In the specific case referred to, it was evident the transferred men would be lost unless remedial steps were taken, though there seemed to be no real evidence that a distinction was being made between old and new workers.

However, the supervisor called the attention of his group bosses to the fact that the exodus of the new men was quite apparent. He made it their responsibility to see that the new men were properly instructed and stated that any more new men who left would be closely questioned. From then on, there was considerably less labor turnover in the department.

Some men are extremely egotistical. The natural ambitions of the egoist are so powerful that he is not content with the results he may be able to obtain by his own efforts. He resorts to internal politics because (1) he gains power since he has others whom he can control to help him, and (2) he reduces the number of possible opponents whom he cannot control. Eventually, the individual has a following, and there is formed a group or clique with a common purpose.

2. A frequent cause of internal politics is the throwing of widely different types or personalities into too close a relationship. Men often hate each other for reasons that do not appear on the surface. In fact, they may not know the reasons themselves.

The loud and boisterous man has little respect for a quiet, unassuming one who has almost nothing to say about himself or anything else. Likewise the latter has little regard for the former. Both may have excellent characters, and yet each may think of the other only with bitter contempt.

An example of this occurred when two crews were placed on jobs that dovetailed with each other. The leader of one was mild-mannered, and of the other was "rough and ready." Both could have done the work well, but they were hardly civil to each other because of their opposite personalities. The members of the two groups followed their examples.

It did not appear that either man was to blame. It was merely an unfortunate circumstance. The only solution was to place them where they did not come in too frequent contact with each other, and as a result there was less chance for irritation.

3. There is a natural tendency for men in industry to build and create; but there is a small percentage who have the inclination to tear down and destroy.

Those men who are destructive have much in common that is not shared by most of their associates. It is to be expected that such men tend to join forces in a clique.

Destructive men are not altogether desirable employees, but there may be reasons for keeping them on the payroll. Perhaps they are especially skilled and difficult to replace. In such cases, while the supervisor finds it necessary to use their skill and experience, he must be on the alert for any destructive activities.

4. Whatever may be the cause of internal strife, the final result, unless the situation is taken in hand, is the formation of a clique to further the interests of the person or group that has selfish ends to accomplish. It is not intended to suggest that a group of men get together into a recognized organization. Rather, the members of the group work by methods that are more subtle, more difficult to define, and more difficult to "put a finger on." It is an important part of the supervisor's job to study the causes of dissension among employees, to guard against any rising feeling among workers, and to iron out the difficulties at their sources and before they spread.

HOW THE POLITICIAN WORKS — The supervisor who wants to take complete charge of his department must be able to recognize politics, and to understand the way in which it works. Some of

The supervisor will always find it advantageous to guard against destructive influences so that his workers and his employers may derive full benefit from the efforts of the organization, and so that satisfactory industrial relations may exist.

the methods used by the internal politician are:

1. Boosting himself and members of the clique.
2. Belittling the work of others.
3. Ridiculing the efforts of others.
4. Changing the meaning of statements of others.
5. Making non-committal insinuations.
6. Hate-making and malicious gossip in general.

The internal politician has more tricks up his sleeve than the best of magicians, and is just as skilled. While he is cheerfully releasing doves from the hat, he stacks the cards with the other hand so that he may deceive you with his next trick. The activities of the politician may bring such serious results that it is an important function of the supervisor to see that his department is kept free of disturbing influences. The supervisor who recognizes and discourages any attempts at politics is well repaid for his efforts.

A clever politician may make progress—for a time at least. There may be among his associates some men who have the same attitude toward life as he has. They will be joined by others who do not do too much thinking for themselves and consider his opinions plausible. Between the two groups he will find a following of men who are willing to believe what he would have them believe and to aid him in his plans. There is a strong tendency for "one rotten apple to spoil a whole barrel." When such a clique is formed, internal politics is on the way.

The primary purpose of the political clique is elimination of those who are not its members. The fight continues, unless there is a determined action by higher authorities to stop it, until the enemy is driven out by making life miserable for him, or by discrediting him to such an extent that he is discharged.

Where there is internal politics in a mill, it seems that everybody involved loses, and the losses are in proportion to the extent that the evil is allowed to spread. In a small department, the workers, the supervisor, and the company lose jobs, effectiveness, and profits respectively.

TREATMENT OF POLITICS — Internal politics must *not* be ignored. To ignore is to encourage. The man who does some little thing with the spirit of the internal politician and is not called, seems to feel that he has gotten away with it, and to believe that he can continue his subversive efforts safely. The next time he has an opportunity to boost himself or friends or to injure his enemies, he does not let it slip. Each success makes him a little bolder until eventually he takes aggressive steps toward his ends. His associates see what is taking place, and some of them who are of like inclination will join him. If it is seen that he is gaining influence with the boss, his associates may decide that it is a good policy for them to get on the bandwagon. Once under way the movement spreads rapidly and is hard to stop.

The work of the supervisor is much easier if he can detect and stamp out any attempt at internal politics before it gets a start. It is not easy to detect such attempts because the politican tries to leave a way out for himself in case his words or actions are questioned.

TO AVOID the serious mistake of accusing a man whose intentions are sincere, it is well for the supervisor to proceed with caution. If he is merely suspicious that there is "dirty work at the crossroads," he can endeavor to make it clear that he believes in fair play and will not tolerate any other condition. Should the matter have developed to a point at which there is no doubt in the mind of the supervisor as to what is going on, he can be more pointed in his remarks and a little more definite in his hints. A frank talk on the matter of internal politics may even be necessary to convince the guilty ones that the supervisor understands the situation, and that he will take any steps necessary to correct it.

The supervisor is in a better position to deal with internal politics if he can so guard his words and actions that the politicians cannot get anything on him. If the supervisor makes the mistake of agreeing with the politician or letting himself be influenced by his attitudes, then he is innocently encouraging the politician and making his own problems more difficult. The supervisor who keeps clear of entanglement in politics has a free hand to stamp it out. If he will not permit it in his department he will make some enemies among those who are inclined to be politicians, but he will command their respect. What is more important, he will have a self-respect that he could not have if he were to engage in politics or allow himself to be influenced by it.

Most men in industry are sincere in their words and actions. It must be admitted, however, that there are exceptions. The supervisor will always find it advantageous to guard against destructive influences so that his workers and his employers may derive full benefit from the efforts of the organization, and so that satisfactory industrial relations may exist.

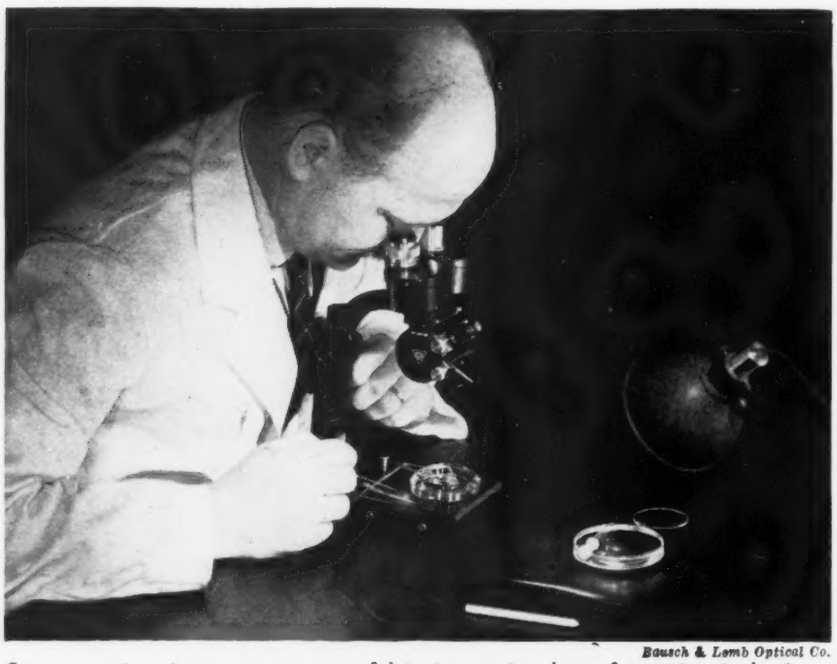
Laboratory Controlled Throwing

Use of testing instruments helpful in maintaining quality control of rayon yarn

By WALTER HAENE
Superintendent, Concord Silk Throwing Co.

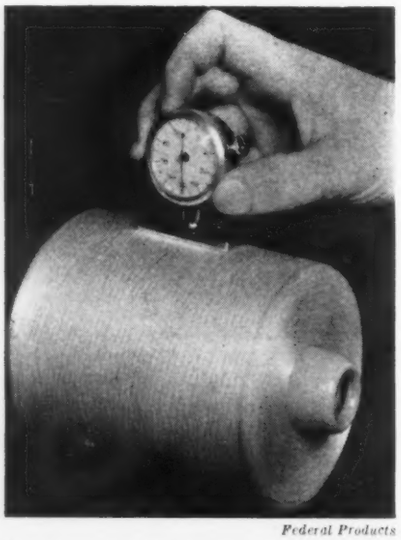
THROWN YARNS of all descriptions—whether silk, rayon, or Nylon—are judged by their quality performance in the knitting or weaving operations. Now, with the textile industry striving against odds, such as variable supplies of raw materials, every effort must be made to keep operations in line and try to get the most out of all materials processed. Many well-trained key men, skilled operators, and good help, all of which make up a good mill organization, have left and will leave for Army training, and for work in vital defense plants. The resources of seasoned experience, which in the textile industry could only be attained through many years of ever-changing problems, are dwindling. It is for these reasons that research becomes of more immediate importance from day to day.

With new and changed qualities of raw materials, previous standards of operation are not up-to-date. Recommendations, so-called good advice, etc., cannot be depended on. Laboratory work involving slow, careful analyzing of all conditions met in throwing and of every experiment undertaken must be conducted to establish standards of operation for the processing of synthetic yarns.



Bausch & Lomb Optical Co.

Stereoscopic microscopes are useful in inspecting loop formation in hosiery, in viewing yarns and in textile laboratory determinations as the field and depth of vision of this equipment exceeds that of high-power microscopes.



Federal Products

Uniform density of rayon cones is essential in maintaining quality control in a throwing mill. A density meter is used for this purpose.

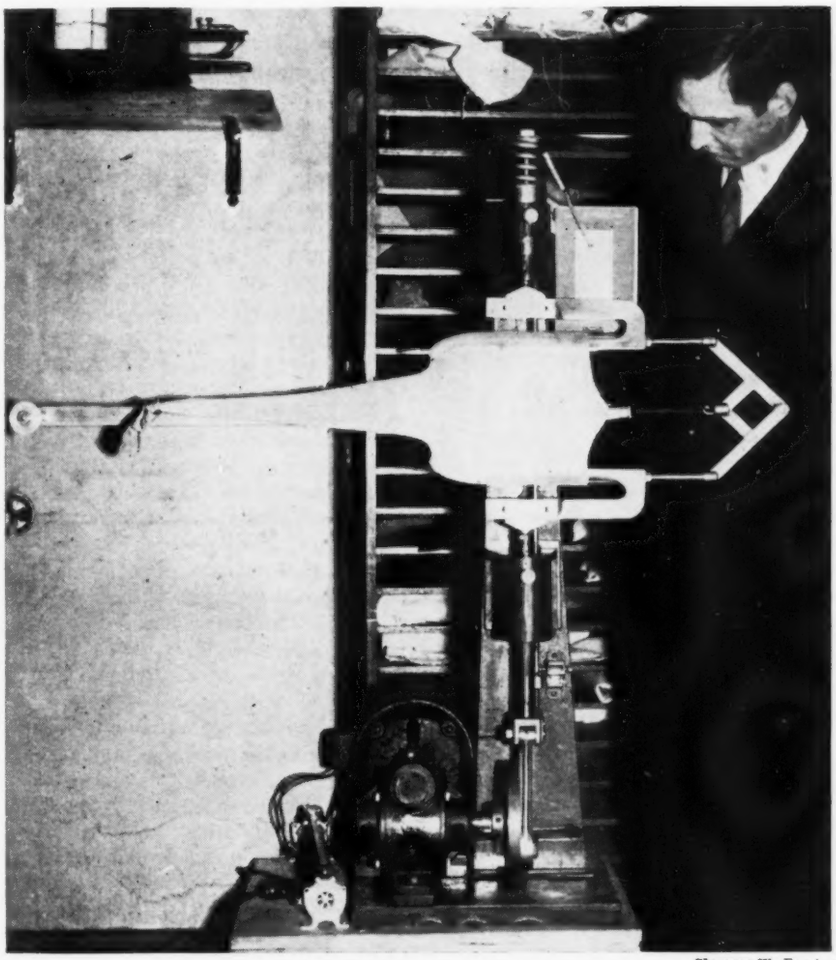
Textile manufacturers usually have instruments for testing, but until recently have made too little use of them in an endeavor to establish standards, which, in turn, permit increases in production and a reduction in waste.

Throwing mills that formerly processed silk yarns always subjected the silk to a number of tests before attempting the throwing. From these tests, the most efficient method of handling the yarns were determined. A mill unaccustomed to throwing rayon yarns will find those standards used for silk obsolete. Hence they must establish separate standards, and if frequent tests are made of the running qualities of the rayon to be processed, many throwing difficulties may be eliminated.

Throwing tests are, in reality, laboratory control operations. When a lot of yarn is received, it is advisable to have the laboratory check the yarn—whether it is rayon or Nylon—for denier; number of filaments; twist, whether *S* or *Z*; type of package; and, if in skeins, if it is oiled or unoiled and natural or tinted; and luster as to bright, semi-dull, or dull. Each yarn lot may require a different treatment.

Yarns and throwing materials are difficult to obtain and must be taken when available and without regard to quality or variability. Different yarn characteristics are found in rayon yarns of various deniers and brands. Most rayon producers are now interested in creating a hosiery yarn, and these yarns, being of a different formula, will undoubtedly again change throwing practices, as they must be handled differently from other rayon yarns.

Yarn characteristics; that is, denier, appearance, flexibility, etc., are measured by such instruments as the serimeter, the yarn reel, the denier scale and the yarn friction tester. Having made tests with these instruments, the throwster will find that his past experience also will help him in setting the



Sherman W. Frazier

Hosiery is tested with the Frazier machine as used by the National Bureau of Standards. This machine is designed for measuring distensibility, recoverability, and stretch-endurability of women's hosiery.

standard for the first operation, which may be soaking or oiling.

Yarns, 75 den. and received in skein form, if intended to be twisted up to 25 t.p.i., may be oiled. Such a rayon oil should be absolutely non-corrosive and of low viscosity. The same yarn for high-twist crepe of 30 t.p.i. and over, must be soaked. The oil used must be of good penetrating and lubricating qualities and contain plasticizing ingredients.

Rayon yarn that has been soaked, dried and room conditioned, and wound on spools is tested for soaking take-up, strength, elongation, and lubricity or surface friction. For such tests the serimeter, a 450-meter yarn reel, a denier scale, and a yarn friction tester are required.

Tests after soaking and drying have proved repeatedly that the very same soaking formulas do not produce equally good results when applied to rayons of different producers. Variable winding results may be attained with the very same yarn, depending upon the type of swifts and the weight of tensions applied. Therefore, break tests should be made until a standard can be set for the various kinds of yarns processed. Such tests are extremely important in aiding the effort to increase the number of yards of yarn per knot. All winder bobbins should be of the same density, which should be checked with a density meter.

Yarn of uniform quality will be produced at the twister if the winder bobbin is correctly built and if the correct spindle speed is maintained by all spindles. Uniform spring tension, essential for correct spindle speed, is checked by a scale. Spindle speeds are frequently checked daily with a stroboscope. This practice of daily checking is of extreme importance because of the endless troubles that may occur in machine operation. Also variation in twist will be carried by the yarn through to the finished hosiery.

The steaming process for setting the yarn should be carried out in thermostatically controlled conditioners to obtain most uniform twist setting. Time factors and humidity factors, somewhat different between rayon yarns of different producers, should be analyzed. Numerous tests are usually necessary. Setting of twist to produce a satisfactory quality of knitting yarn is a vital operation. The minimum time of the cooling period after removing the yarn from the conditioner is standardized as just another link in the chain of safe practices.

Coning operations, if not carefully controlled, can spoil a perfectly good yarn. Uniform tensions are essential and require continuous attention. Density must be maintained according to individual standards. Operators must be closely checked at all times if the number of rejected cones is expected to be limited. Finally, all cones are inspected before shipping. Only responsible inspectors should be allowed to make the final inspection.

Thrown yarns should be checked continuously, either by instrument or by physical attention. A final assurance that the thrown yarns are suited for knitting or other purposes is made through twist tests, setting tests, and yarn friction tests. Responsibility of the throwster does not end when the yarn leaves his plant, as he is held partially responsible for the success of the knitting operation.

Finished hosiery is tested for standard required qualities, such as wearability, stretchability, etc. Such tests often are conducted on the Frazier Machine. The bursting strength is usually determined on the Mullen tester. An abrasion test should be made, and very often the styling department is interested in the results of the snag test. Stitch formation is checked by a microscope projector, if one is available, or by a microscope. These later tests are not usually performed daily, but should be checked systematically.

B. F. Perkins & Son, Inc.

Testing of hosiery for bursting strength on a Mullen tester is frequently made in laboratories as a means of checking fabric quality.

Permanent Finishes

Prove helpful in processing variety of fabrics for military and civilian uses

APPLICATION of various types of permanent finishes to cotton, rayon, and wool fabrics has become more important since the start of the war. Some of these finishes actually are permanent, lasting throughout the entire life of the fabric; others are semi-permanent, withstanding a considerable amount of laundering or dry-cleaning before they are removed from the fabric. There is no official definition of the term "permanent finish." However, it is the general feeling in the trade that finishes which are not truly permanent, but are semi-permanent, should be called "durable finishes" to distinguish them from the true permanent finishes. Permanent and durable finishes are being employed increasingly in processing fabrics for military purposes and for civilian use. However, there are still many places where permanent finishes are not being utilized, although their use appears to be warranted.

One of the first types of permanent finishes to be brought out is the permanent organdy finish. This finish was developed by the Heberlein organization, in Switzerland, and consists of treating cotton fabrics with a strong solution of sulphuric acid or with another chemical to impart a stiff, permanent finish, not removed by laundering or dry-cleaning. Modifications of this process have also been employed to produce linen-like finishes on cotton fabrics. Permanent finishes of this type are employed quite extensively on some classes of fabrics for apparel and household use. With imports of linen curtailed, it seems well worthwhile to explore more thoroughly the possibilities of the Heberlein processes for producing linen-like finishes on cotton fabrics.

In the last six or seven years, several types of synthetic resins have been developed for use in finishing of cotton and rayon fabrics. One of the first uses for synthetic resins in the processing of textiles was for producing crease-resistant cotton and rayon fabrics. This process was patented by Tootal, Broadhurst & Lee of England, and is at present widely used both in Europe and in this country. The finish is usually considered to be a permanent one, although there is some question as to whether it should be classified as a permanent finish or a durable finish. Despite the scarcity of some of the chemicals used in the Tootal, Broadhurst & Lee process, it is being publicized in England as an aid in conservation of cotton and rayon utility fabrics.

SYNTHETIC RESINS are also employed for producing a variety of other permanent or durable finishes. For example, some types of synthetic resins are applied to rayon fabrics to produce a transparent waterproof finish; other types are employed to increase the resistance to abrasion of cotton fabrics. It appears certain that these two types of finishes will find new applications as their properties and advantages become better known.

A few years ago, there was introduced a new type of compound which is known in the trade as a cation-active material. Since then a number of other compounds of this same general class have been introduced. The outstanding property of these cation-active materials is that they have an affinity for cellulose fibers. For this reason, they have been adopted by the textile industry for use in producing permanent or durable finishes of various types. One of the first of these compounds to be developed produces a water-repellent finish which withstands several launderings or dry-cleanings. Others are used to impart a softening effect to various types of fabrics. Water-repellent finishes produced with cation-active compounds are being applied to several types of cotton fabrics purchased by the Army and are also used on raincoatings and other fabrics for the civilian market.

Rather surprisingly, Army overcoatings and uniform fabrics made from wool are not given a water-repellent finish. A satisfactory, durable water-repellent finish for those fabrics undoubtedly would receive careful consideration by the Quartermaster Corps.

Recently a number of different processes have been introduced for treating wool chemically to render it shrink-proof or non-felting. These finishes are also permanent in their effect. For the last year and a half use of non-felting wool has been stipulated in woolen clothing for the British armed forces, and many of the utility fabrics made in England contain wool which has been rendered shrink-proof or non-felting. Thus far the processes have been used only to a limited extent by the industry in this country.

Certain of the mothproofing compounds which are employed in the treatment of wool goods are quite durable. In fact, some mothproofed fabrics are guaranteed for period of as much as five years. The Quartermaster Corps has not considered that mothproofing is essential for military fabrics. On the other hand, the necessity for conserving the wool allotted to civilian use should create a greater demand from consumers for mothproofed fabrics.

A number of soluble derivatives of cellulose can be applied to cotton fabrics to produce permanent finishes that increase the durability, enhance the appearance, and reduce shrinkage. At least one of these finishes is being used on tricot and marquisette nettings purchased by the Army, as well as on sheetings and other fabrics for civilians.

PRE-SHRUNK FINISHES on cotton piece goods obtained by Sanforizing or other mechanical processes have, of course, been popular on shirtings, dress goods, etc., and are now specified on a variety of military fabrics.

Treatment of cotton and fabrics with cuprammonium solution results in water-repellent and/or mildewproof finishes, depending on the method of application. Mildewproof finishes of various degrees of permanency are being obtained on cotton and jute with copper compounds and other chemicals. Need by the Army for sand-bag fabrics, camouflage cloth, and other textiles for outdoor use has greatly increased the demand for durable mildewproof finishes.

Many of the finishes obtained by coating cotton fabrics with pyroxylin, cellulose acetate, rubber, etc., are permanent or durable. Coated finishes are employed extensively for producing waterproof, gasproof, and other special effects.

Durable or permanent flameproof finishes are desirable for awnings, tents, and other purposes. Considerable research is now being carried out to develop flameproofing agents which will meet Government needs and which will not require use of rubber chloride.

Frequently, multi-purpose permanent finishes are advantageous; for example, an Army Specification issued recently calls for gabardine which is flame-resistant, gasoline-resistant, and water-resistant.

American Sericulture

Japanese at Manzanar may aid war effort by producing silk for powder bags

NUMEROUS ATTEMPTS, from time to time, have been made to produce silk in this country. Renewed interest in such ventures has developed since the cessation of imports of Japanese silk, as silk had always been considered an essential defense material. However, the necessity for silk in parachutes, banners, etc., has been obviated by the use of substitute materials that, in actual tests, have proved to be more satisfactory than silk for many purposes.

One use for silk, still considered essential is for the manufacture of powder bags for large, high-caliber guns. Although substitutes have proved satisfactory for powder bags in smaller guns, silk is preferable for large guns, as it is completely consumed at firing and does not leave harmful deposits. The present silk stock-pile obtained by the freezing of all silk will meet this need for a considerable time.

Back in 1939, Francis G. Simmons, research director of the Underwear Institute, presented a plan to the Federal Government recommending silk raising by the Federal and/or State prisons. Alabama Prison Farm at Atmore entered a contract for a supply of silk-worm eggs and planned for the planting of 20,000 mulberry trees.

Silk worms and mulberry trees can be grown in many sections of this country, but the tremendous amount of time and care required in picking the desirable mulberry leaves and caring for the worms has made the labor cost of American-grown silk prohibitive. Hence, convict labor was advocated.

With a cocoon reeling machine recently developed for reeling the silk from the cocoons, Col. W. E. Persons, State prisons director for Alabama, intends to submit to the WPB a report on the possibilities of prison production of silk.

Sericulture on the West coast has felt the influence of the late Luther Burbank. A hosiery manufacturer, De Mond Willys, has reorganized a silk farm at San Marcos, Cal., using some of the mulberry trees perfected by Burbank. With 100,000 trees, it is expected that production will run about half a million pounds of raw silk next year.

Another recent West coast venture calls for using the Japanese evacuees of the Pacific coast at Manzanar to reel the silk. This venture, headed by James B. Leong, a Los Angeles, Cal., sericulturist, is said to have permission from the U. S. Army Air Corps to use American raised silk for testing purposes. Silk reeling has never been conducted in the country on an extensive commercial scale, but many of the older Japanese in the Manzanar colony are ideally prepared for this work as they have had experience in Japan.

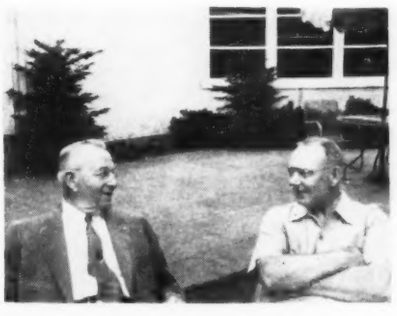
Philadelphia Group Holds Outing

THE ANNUAL OUTING of the Philadelphia Textile Manufacturers Association was held June 26, at Cedarbrook Country Club with 280 members and guests in attendance. War contracts and the ability of the individual mills to handle them was the main topic of conversation.

Dean M. E. Heard, of the Philadelphia Textile Institute, spoke of the close working arrangements being maintained between the Institute and the PTMA in an attempt to solve the many problems being presented by the members in regard to defense contracts.

The golf championship cup of the association, along with a $25 bond, was awarded to Joseph B. Knipe, of Walter B. Knipe & Sons, for low net score, and second low net, also another $25 defense bond went to Lyman Lloyd of Alex. C. Fergusson & Co.; other low net winners were: H. T. Greenwood, Jr., Globe Dye Works, Inc.; R. Oberholtzer, James Lees & Sons, Bridgeport, Pa.; Charles Wagner, Eavenson & Levering Co., Camden, N. J.; Joseph Schmidz, Universal Dye Works; James Hulton, Jr., Hulton Dye Works, and J. Kendrick, Aberfoyle Mfg. Co.

Left to right—Jim Diamond, Victor Dye Works, Chairman, Outing Committee; "Woody" J. Platt, Henderson Rug Co., Ex. Golf Champ., Philadelphia district; Art Schneider, Marsland Walton Mills.



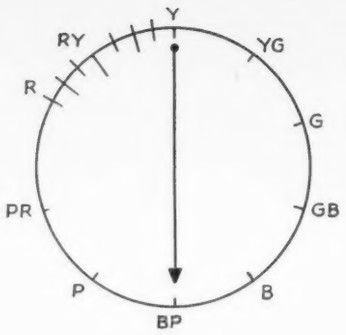
Left to right—C. Marlin Bell, sec., Philadelphia Textile Manufacturers Association; Walter U. Markel, Manager, Free Employment Division of Philadelphia Textile Manufacturers Association.

William Barstow of NoMend Hosiery Co., won the $25 defense bond donated by the Textile Machine Works, Reading, Pa., for the best score turned in by a hosiery millman.

Low gross prize for members, a $25 bond donated by A. B. Otto, president of the association, was won by S. L. Jones of H. C. Jones Co., Conshohocken, Pa., for the second straight year. Door prizes in bonds and stamps were awarded following the banquet. M. M. Anderson of S. & M. Dye Works, winning a $25 bond presented by Pioneer Salt Co. This gathering represented the 16th annual outing.

Blending Dyed Fibers

Nearly 2000 different shades of yarn can be produced from 10 original colors



Color wheel.

It is widely recognized that blending of colored fibers results in yarn of a superior appearance. Pronounced sound by mill men, the system of blending outlined by Miss Rosatto in the following article has definite advantages over other methods. This system is the practical application of the color course taught in the Design Department at Lowell Textile Institute.

By VITTORIA ROSATTO
Lowell Textile Institute

A MILL having an adequate supply of wool fiber dyed in 10 original colors can blend the stock in various groupings and percentages to produce approximately 2000 blends. Colors used for these blends are: spectrum red, spectrum yellow, spectrum blue, magenta, turquoise, yellow-ochre, cream-white, blue-white, brown-black and blue-black. Whites and blacks are technically neutrals, but will be classed as colors.

The basic spectrum primary colors are red, yellow, and blue. By mixing yellow and blue, green is obtained as indicated by *G* in the color wheel. By mixing blue and red, purple is obtained, as indicated by *P*. By mixing red and yellow, orange or red-yellow is obtained, as indicated by *RY*. The subdivisions between red and yellow show the number of easily distinguishable blends made by mixing red and yellow, and total seven. The percentages of red and yellow for the blends are as follows:

R 100%	R 87½%	plus Y 12½%	
	R 75	plus Y 25	
	R 62½	plus Y 37½	
	R 50	plus Y 50	
	R 37½	plus Y 62½	
	R 25	plus Y 75	
	R 12½	plus Y 87½	Y 100%

The same number of equally visible blends can be mixed, as indicated above, between yellow and green, green and blue, blue and purple, and purple and red. These combinations make a total of 40 different colors.

Magenta and turquoise are used in place of red and blue respectively when a more brilliant blend is desired. The green obtained by the mixture of yellow and blue is lacking in brilliance when compared to the green produced by mixing yellow and turquoise. The same is true of purple made with red and blue, hence for a bright purple substitute magenta in place of red. A mixture of magenta and turquoise will produce an even brighter purple.

Yellow-ochre is included as one of the 10 original colors because of the desirable qualities of richness and body this color produces when mixed in a small quantity with practically any color.

By adding white to any of these colors, several steps lighter than the normal color can be produced. It is important to add the blue-white to colors showing blue to be dominant, and cream-white to colors showing red or yellow to be dominant. If cream-white instead of blue-white is added to a color with blue dominating, the blend will not be as clear, but will appear muddy. In the case of red or yellow, the addition of blue-white instead of cream-white will also make an impure blend.

All colors are not all of the same value, or lightness. For example, spectrum yellow is normally much lighter than spectrum blue; and the number of visible steps, or values, obtained by the addition of white varies with the color. Conversely, the light colors can be blended to produce more dark values than the dark colors.

To darken a color, best results are obtained when its complement is used and is located at 180° on the color wheel. Using yellow as an example, its complement is indicated on the diagram at point *BP* (blue-purple). The use of black should be avoided unless the complement of a color does not sufficiently darken it. This will be true of a small number of colors, but even then the black should be used sparingly. A startling example of darkening with black only can be seen in the case of yellow. Addition of a small quantity of black will turn yellow very dingy and greenish. The complement of yellow will darken it, but at the same time, retain the quality of the color.

Percentage scales showing the addition of white to lighten and the addition of a complement to darken must be determined according to the value of the color. The number of values for each color varies somewhat with the color, but at least seven values can be blended for each color distinguished, permitting a total of 280 colors.

When the complement of any color constitutes from 40% to 50% of the mixture, according to the color, the result is a brown blend. The brown will be a red-brown if red and its complement are used, orange-brown if orange and its complement are used, etc. A small quantity of black is added to produce a darker brown. White is added to the brown to obtain tan. Browns and tans made with reds or yellows are more successful than those made with blues. At least 30 different browns and tans can be blended, making the new total of 310 colors.

Grays are made by blending black and white. Blue-black and blue-white should be used for a clear gray scale. Seven gray blends can be easily made showing a uniform change of value by using the same percentages as in the case of red and yellow just mentioned. The colors possible now total 317.

A change in the brilliance, or chroma, of a color is governed by the amount of gray added. Each value of a color can be mixed with gray of the same value, in percentages to produce a scale showing chroma intervals. The number of intervals varies with the color, for some colors may easily have twelve visible changes from bright to very dull (for example, red), whereas other colors showing the same differences in the chroma changes will have lost their strength in but four blendings (such as green-blue). Compromising on 6 changes for each value of each color, a total of 1717 colors is available.

It is possible to make more than 40 divisions in the color wheel. Just 5 more colors will add 245 colors to the total, as each color has 7 values and each value has 6 chromas.

A mill having a supply of the 10 colors used in this system can produce at any time practically any color desired. If the season's colors demand reds or purples or any other color, the 10 original colors still equal the need.

A few simple charts showing percentages for the blending of color, value, or chroma, will insure uniform results.

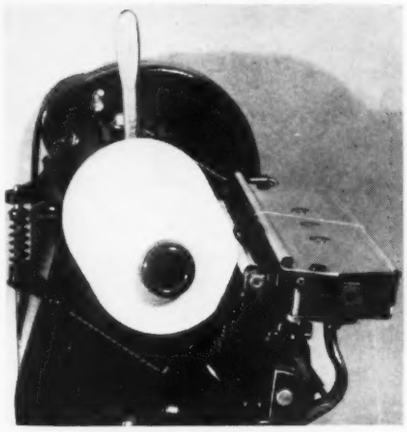
TEXTILE EQUIPMENT NEWS

Roller Cover

Calfette, a new roller cover material developed by Gill Leather Co., Salem, Mass., is said to possess good spinning qualities with the added advantage of low initial cost. This roller cover material cements easily and produces a round, smooth roll that will spin without eyebrows. It resists fluting when the frame is not in operation, retains its resiliency in low temperatures and is impervious to excessive humidity. Drawing rolls covered with Calfette can be used for spinning the finer counts of yarn.

Coner Attachment

A Type H pineapple attachment permitting No. 75 coners to wind pineapple cones, has been announced by Foster Machine Co., Westfield, Mass. A feature of this attachment is its mechanical simplicity, which permits higher operating speeds and low maintenance costs. The guide employed does not rock or tilt, but moves in a straight line, so that the yarn can be delivered at the junction of the pressure roll of the package. A pivoted pressure roll is used so that packages of low density can be produced. The Type H attachment can be installed on coners already in operation in mills, and is standard on new machines.



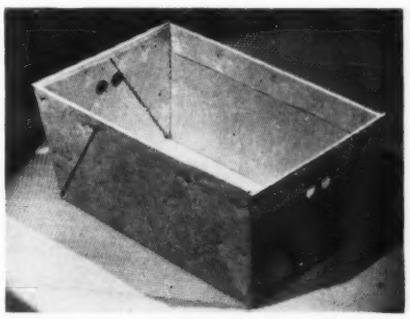
Type H pineapple attachment (Foster)

Water Control for Boilers

A system of multiple boiler-water control that maintains safe and proper water levels in two or more boilers with only one boiler-feed pump, has been announced by Johnson Corp., Three Rivers, Mich. Water level of each boiler is controlled separately, and water added independently of the other boilers, as the need arises. The system is electrically controlled, completely automatic in operation. Construction is said to be simple, insuring dependable operation and making installation easy. The new control is designed for pressures up to 150 lb., for boilers up to 250 hp., and to be used with any type of steam or motor driven boiler feed pump.

Corrugated Paper Board Tote Boxes

Boxes of corrugated paper board, recently introduced by Hinde & Dauch Paper Co., Sandusky, Ohio, may be used by loomfixers for holding their tools, and for many other purposes. Intended to conserve metal supplies, this box is lighter than most boxes and does not present sharp edges that may injure the fixer. Another use for tote boxes is for holding and segregating supplies and repair parts in the stock room.

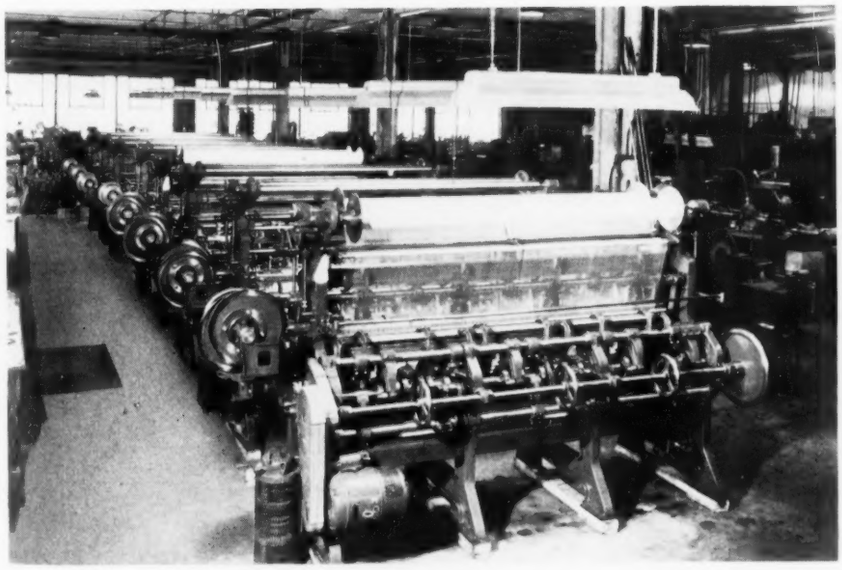


Tote Box (Hinde & Dauch)

Air Raid Safety Blanket

A densely felted blanket made with cattle hair and reinforced with a wire mesh center is offered by Clinton Carpet Co., Merchandise Mart, Chicago, for protection against flying glass during air raids. Weighing about 54 oz. per sq.yd. and $\frac{3}{8}$ in. thick, this blanket may be hung on the inside of mill buildings over windows to prevent glass from being blown into a building by the concussion of an exploding bomb. Several methods of mounting these blankets

TRICOT MACHINES MANUFACTURED IN AMERICA



HIGH-SPEED DOUBLE-TRICOT MACHINES of this type manufactured by Alfred Hofman Inc., have been installed recently in several mills. The machines are built in 30 and 32 gage; needle-bar working width is 85 in.; speed is in excess of 200 r.p.m. Until recently machines of this type have not been built in the United States.

are available. For permanent installations, the blanket may be bolted directly to the window frame or to the building. Removable installations are such that the blanket may be rolled above the window when not in use.

These blankets may be used for blackout purposes. Several lines are available without wire reinforcing and in lighter weights. Cattle hair, the material used in the manufacture of these blankets is densely felted to the point that it will char but not burn. It is said to be unaffected by moisture, and to possess heat-insulation qualities.

Warp Beam Truck

A hydraulic lift warp beam truck developed by J. W. Lewis & Co., Spartanburg, S. C., facilitates handling of loom beams in limited space as found between looms. Intended for placing new loom beams in position at the loom and for removing full cloth rolls from the loom, the truck is designed either to raise or lower the beam from or to position. A 14-in. tread, and the ability to raise a beam to a height of 38 in., permit the truck to be moved down walks in back of the looms. Beams may be raised in limited space above the height of the working parts of the loom to be moved into position. Beams and cloth rolls up to 3,000 lb. may be handled.

Another truck manufactured by this company permits the handling of two loom beams at once or of a single long beam of 120 in. as required for the warp of wide looms. This truck will handle beams of not over 3,000 lb. and has a low cradle position of 7 in. above the floor and a high cradle position of 38 in.

Hydraulic lift warp beam truck. (J. W. Lewis)

Mill Maintenance Section

How to Keep Chain Drives at Top Efficiency

To keep chain drives running day and night under war-time conditions they must have extra care. The following useful hints on maintenance of chain and sprockets is abstracted from a recent issue of *Link-Belt News*.

1. Chain pins. Actually remove a pin and observe the amount of wear. This is easily discerned, as the pins originally were cylindrical in shape. These metal parts comprise the heart of the chain. The condition of the pin or bushing reflects quickly the general condition of the entire chain.

2. Check the sprockets over which the chain operates. If the teeth have been worn hook shaped, you may be able to reverse the sprocket on the shaft to bring the chain barrels or bearing surfaces into contact with fresh, unworn teeth surfaces and get the most out of your sprockets. Don't put a new chain on badly worn sprockets or an old worn chain on new sprockets. The pitch of the sprocket may not be the same as the pitch of the chain, in which case premature wear will take place.

3. Remove chain at frequent intervals and clean in some solution to wash out the dirt and grit. If you don't do this, the abrasive action which takes place causes far more wear and tear in the chain than normal.

4. Inspect bearings carefully and frequently. The grease used as a lubricant may cover the bearing to such an extent that one might fail to notice serious wear. Wipe off the grease from the side of the bearing and carefully inspect the thickness of actual bearing metal.

5. Anti-friction, roller or ball bearings should be flushed periodically with fresh grease. This operation drives out fine particles of foreign matter which might be injurious to the highly polished machine surfaces of raceways, balls or rollers. In dusty atmospheres and dirty locations, use auxiliary dust seals.

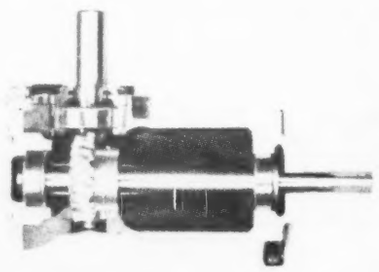
6. Make use of dust and oil tight guards or casings over high-speed silent or roller chain drives. Oil then lubricates all the moving working parts in these chains and reduces friction between chain and sprockets.

7. Check carefully foundation supports for all machinery. Vibration can loosen foundations and supports and may thereby cause serious misalignment between chains and sprockets, producing needless friction and bringing about rapid premature wear.

Lubrication of Twister Worm Gear Unit

Approved lubrication practice reduces twister break-downs and prolongs the life of the worm gear twist unit. Improper lubrication in the worm gear unit may be detected by its temperature according to the June issue of *Atwood Twists*, published by Atwood Machine Co. The unit will run unduly warm if the worm gear is permitted to generate frictional heat, either through lack of sufficient lubrication or because the lubricant is of wrong viscosity.

The unit requires only infrequent—but regular attention. It should be drained once a year, flushed with a flushing oil, and re-lubricated. A turbine oil, or an oil of the type commonly classed as 600-W is recommended. The oil level, indicated in the oil cup at the side of the unit, should be checked every 60 to 90 days. The top bearing is equipped with a hydraulic pressure fitting. Use the identical lubricant here that you use for the unit below. Under no circumstances permit the use of grease at this fitting. Frequently grease has a different base than oil and when mixed the two will separate, destroying lubrication efficiency.



Correct lubrication of worm gear.

Make Slasher Quetsch Rolls Last Longer

Maintenance of every part of a sizer is important, especially when replacements are hard to obtain. This is espe-

cially so with rubber-covered quetsch rolls, which must be re-covered at intervals. Two suggestions for prolonging life of quetsch rolls are given in the June issue of the *Rayon Warp Sizing Specialist*, published by Charles B. Johnson Machine Works. They are:

1. The rubber covering will last much longer if rolls are cleaned with plain warm water after every run of warp. This will remove all film of softener or grease and prevent its penetration into the rolls, which has a tendency to soften the rubber.

2. After washing them, give the rolls a chance to dry thoroughly.

Give Safety and Relief Valves Proper Care

Let one man handle all maintenance work on valves is the recommendation made in a pamphlet "How to Make Your Safety and Relief Valves Last Longer," issued by Manning, Maxwell & Moore, Inc. Other suggestions made are as follows:

Repair leaky valves at the first possible opportunity. Always use the lapping tools recommended by the valve manufacturer when doing maintenance work. These tools have been determined to be the best and most economical for the repair of a valve and should be used whenever such work is done.

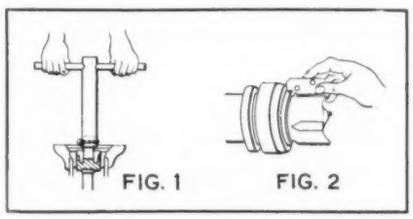


Fig. 1—Use lapping tools recommended by the valve manufacturer. Fig. 2—Use the proper seat and feather gages.

When repairing valves, lap only the amount necessary to secure a tight valve. Overlapping wears away seat material and does not result in any improvement. Machining of parts should be unnecessary if valves are examined at regular intervals.

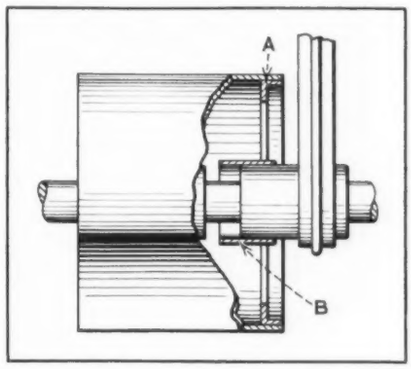
Use the proper seat and feather gages during the repair of all valves so that the critical dimensions in the operating mechanism of the valve will be maintained accurately.

Be sure the proper spring is in each valve and that in changing the original set pressure of a valve, the spring range is not exceeded. Always consult the manufacturer regarding contemplated changes in the set pressure of a valve.

Protecting Rubber Belts from Oil

Oil is the greatest enemy of any rubber product. It causes swelling and gradual rotting of rubber. Mineral oils are especially penetrating, and can eventually work deep into the body of a rubber belt. When only one edge is exposed to oil, the belt elongates on that side and becomes crooked.

A simple "dike and dam" gadget to protect belts against oil that might be thrown from idler pulleys is described in the first of a series of pamphlets, "How to Get the Most Service Out of Industrial Rubber Products," issued by B. F. Goodrich Co.



Dam and dike protects rubber belts from oil.

The gadget can be constructed by any good shop mechanic and frequently can be made from light metal. The dam, *A* in the accompanying illustration, is used to prevent oil from being carried by centrifugal force around the idler edge and onto the belt. The dike, *B*, is used to prevent oil from being thrown onto the belt from the idler bearing by throwing it into the interior of the idler pulley, where it is retained by the dam. Remember, however, that oil accumulations in these units must be cleaned out regularly by your belt maintenance crew.

Conserve Your Stainless Steel Equipment

Give your stainless steel equipment regular, systematic care, and you will obtain maximum service life. Eight suggestions to textile men on care of such equipment are given in a wall chart issued by Republic Steel Corp. They are:

1. Cleanliness is of utmost importance at all times. This cannot be stressed too strongly. To avoid contamination of dye solutions, use stainless steel wool or brushes for cleaning. Never use ordinary steel wool or brushes. Acid solution of sodium dichromate can be used for cleaning, but the equipment should be rinsed thoroughly with water immediately after.

2. Avoid handling strong solutions of sulphuric and hydrochloric or other strongly reducing acids in stainless steel equipment.

3. Acid or chloride solutions should not be allowed to dry on stainless steel surfaces.

4. Sulphuric acid rather than hydro-

CHECK CHART FOR MOTOR MAINTENANCE

MOTORS

✔ ***Keep the Windings, Ventilating Ducts, Commutators and Brush Rigging Clean***

In dusty locations, blow out weekly; under severe conditions, daily. Do not use air pressure higher than 50 lbs.

✔ ***Lubricate Regularly, Carefully***

Follow manufacturer's instructions. Oil *daily* those motors that require it. Schedule definite oiling dates for the others. In dusty or damp locations, drain oil once a month and renew. Do not over-lubricate. It wastes oil, gets in windings and deteriorates insulation.

✔ ***Examine Bearings***

Check daily on heavily used motors; once a week on others. Check oil ring. Feel for high temperatures. Check for excessive end play.

✔ ***Check Air Gap between the Rotor and the Stator***

Check weekly on motors that operate with excessive belt tension; others, once a month. Differences in width of gap indicate bearing wear which, once started, accelerates rapidly.

✔ ***Inspect Brushes and Commutators***

Check daily on those motors in severe service; others once a week. Keep commutators smooth, with brushes seated perfectly. On carbon brushes use correct grade to prevent excessive commutator wear and control arcing.

✔ ***Inspect All Exposed Motor Leads***

Check weekly. Keep connections tight, free from oil and moisture, well insulated and protected.

✔ ***Inspect Ground Connections***

Check weekly. Keep tight and in good condition. THESE ARE IMPORTANT TO SAFETY of employes and, in some cases, of current protective devices.

REGULAR INSPECTION will reduce repair time, according to a large wall chart issued recently by Westinghouse Maintenance Sales, to assist users of electrical equipment in checking the condition of motors, control equipment, wiring, lightning arresters, fuses, and transformers. Illustrated is the section of the chart dealing with motors.

chloric acid should be used for diazotizing solutions.

5. Do not hold continuous chlorine bleaches in stainless steel tanks.

6. If the equipment is so constructed that wood is in constant contact with stainless steel, both the wood and the steel should be painted with asphaltum paint or zinc chromate primer.

7. Avoid cyclic or bending stresses.

8. Galvanic cell corrosion may be avoided by using same types of metals together. Work for uniformity in regard to solutions, temperatures, agitation, concentrations and surface conditions. Often these ideal conditions may not be possible. Corrosion, however, may be greatly retarded by careful cleaning and periodic passivation by exposing the parts to clean air.

New Dyes and Chemicals

Water Repellent

Development of a water-repellent finish which meets the U. S. Quartermaster Corps Tentative Specification P.Q.D. 115, has been announced by S. C. Johnson & Son, Inc., Industrial Wax Division, Racine, Wis. The finish is a stable, uniform, aqueous emulsion of waxes and suitable aluminum salts and emulsifying agents. The emulsion is suitable for application to all types of fabrics and renders such fabrics water repellent. It is suitable also for use in laundries in order to renew the water repellency of washable clothes, particularly in Army laundries where the cloth was made water repellent when manufactured, and in dry-cleaning plants to give a water repellent finish to clothing which has been dry cleaned and through which process the water repellency provided at the mill has been materially reduced.

Following are important characteristics of the finish cited by the manufacturer: Is non-flammable; is stable: emulsion is stable at elevated temperatures for a reasonable period of time; has no deleterious effect on the finish of vat or sulphur dyed textiles; imparts no objectionable odor to treated fabrics; may be diluted with any proportion of ordinary tap water without causing any separation or breaking of the emulsion; contains no product which is toxic or injurious to the skin; acidity of the product does not have to be regulated from time to time with acetic or formic acid; contains no ingredients which are critical at the present time—the aluminum content comes from aluminum clays and not from metallic aluminum.

The emulsion is supplied in a concentrated form, having a total solids of 27%. It is, therefore, necessary to dilute the material with water for use. In general, for use on sheer goods, such as silks and rayons, the material is used in a concentration of approximately 1% to 3%. For treating heavy ducks, a concentration as high as 5% is sometimes required. It is generally applied at temperatures ranging from 150 to 200°F. The finish may be applied on a three-roll padder, after which the fabric is rapidly dried over steam heated cylinders and finally thoroughly dried and aged in either festoon driers or any other continuous type.

Mildewproofing Agent

For protecting a wide variety of textiles of vegetable origin against mold and mildew, Albi Chemical Corp., 9 Park Place, New York, is offering a mildewproofing agent, known as Protela SB. This compound has been employed for over a year in mildewproofing burlap for sandbags required by the U. S. Army Corps of Engineers, and its use is now being extended to treatment of tentage, deck covers, awnings, fire hose, ropes, tobacco shade cloth, etc. It is recommended for application to products made of jute, cotton, sisal, linen, hemp, paper, etc., where permanent resistance to outdoor weather exposure is important.

Protela SB is shipped in concentrated form and is diluted before use. Following is a typical method of application as used with 10-oz. burlap: Protela SB is diluted with water at room temperature up to 100° F. and ⅛% of penetrant and 1% to 2% of aqua ammonia by volume are added to the dilute. The compound is mixed either in a stainless steel, wooden, or special paint-lined iron tank with a portable agitator. The mix, when ready for use, is fed into the immersion box and the flow is so adjusted as to be continuous, approximately equaling the amount taken out by the material. The compound contains approximately 10% copper as metal, and the dilution of the concentrate must be adjusted to permit satisfactory absorption of copper on the fabric. The absorption into the jute fabric is naturally dependent upon the per cent wet pick-up out of the solution which, in turn, is regulated by the squeeze rolls of the pad. The dilutions of the compound, therefore, vary, depending upon the particular equipment; but, in general, are between 1:16 and 1:10 by weight, with approximately 60% to 100% pick-up. Use of the stronger concentration, with less pick-up, minimizes the moisture content in the fabric and thus economizes in the drying operations.

During the impregnation process, there is impinged into the fibers an ammonical copper fluoride which is broken down by heat and drying into stable copper fluoride and a volatilization of the free ammonia. The relative insolubility of the copper fluoride aids in maintaining the permanence of the treatment under wet or damp conditions, and the slow evolution of the copper and fluoride ion acts as fungical preservative.

General Dye

General Dyestuff Corp. announces the following new product: Rapid Fast Scarlet ILH. Powder, a Rapid Fast color having twice the strength of the corresponding paste but the same in all other properties.

Tentage Compound

Development of an olive drab tentage compound complying with Federal Specification CCC-D-746 has been announced by the General Industrial Finishes Division, of General Printing Ink Corp., 100 Sixth Ave., New York. This compound, which is said to have received approval from the Jeffersonville Quartermaster Depot, requires no critical solvents for reduction, contains no abrasive pigments, and is designed to render cotton duck permanently soft and flexible.

Finish For Cotton Lace and Mesh Hosiery

A special finish for cotton lace and mesh hosiery has been developed by Burkhart-Schier Chemical Co., Chattanooga, Tenn. The compound is known as Hosiery Finish H-5. This finish costs only 1/3 c. per doz. to apply. No special equipment is needed, and it is applied in the last bath. It is stated that not only does Finish H-5 greatly improve the appearance of cotton hosiery, but also that boarding and pairing are made easier as the hosiery does not curl or wrinkle. The finish does not change the shade of the hosiery.

New Publications

Love Story in a New England Mill Town

AND NOW TOMORROW, by Rachel Field; The Macmillan Co., New York; $2.75.

It is the river that divides Emily's world from that of the mill folk and through the intermingling of these two worlds Miss Field weaves the poignant prose-fabric of her newest novel.

Standing on the bridge with her mother, Emily first realizes that the river marks the boundary between secure and precarious living; between the textile mill workers and her owner family—that she, herself, is destined to stand on the span of its bridges in full knowledge that she can never "renounce all of one side for all of the other." Cringing at the sight of a "grocery store" Christmas—of the mill hands hating her father—she later learns, through love and a deep personal tragedy, what comprises the real hearts of human beings.

Although not quite up to the standard of "All This, And Heaven Too," Miss Field's latest love story is heartwarming and meaningful. It is a "must" for textile mill men who would add another chapter to their understanding of employer-employee relations.

Textile Tests

TESTING IN MODERN INDUSTRY; United States Testing Co., Hoboken, N. J. For limited distribution.

The first part of this booklet describes the various textile tests conducted by United States Testing Co. and the other services offered by the company. The second part contains a compilation of useful tables and other data on textiles, textile chemicals, metals, etc.

About Fluorescent Lighting

FLUORESCENT LIGHTING MANUAL; Charles Amick; McGraw-Hill Book Co., New York; $3.

Introduction of fluorescent lamps brought with it revolutionary changes in lighting practice in textile mills. There is scarcely a plant in the industry which has not installed fluorescent lighting, in some departments at least, or which does not intend to do so at the first opportunity. This manual, prepared by one of the staff of General Electric's Nela Park Engineering Department, provides authoritative information on the construction and performance of all types of fluorescent lamps, selection of luminaires, installation, and maintenance. Written in layman's language and profusely illustrated, it will prove valuable not only to plant engineers and electricians, but also to other mill executives.

Training Industrial Personnel

EMPLOYEE TRAINING, by Alfred M. Cooper; McGraw-Hill Book Co., New York; $2.50.

Based on the premise that the conference method best fulfills the requirements for training employed workers, "Employee Training" is a "lesson plan" for putting this method into successful operation in industry.

In order to promote participation of the trainees (one of the unquestioned advantages of the conference method) Mr. Cooper repeatedly emphasizes the skill required of the conference leader. The good conference leader is none other than the good executive who, through certain tactics, motivates thinking from his co-workers by a logical, organized approach to a well-defined problem. Actually, it adds up to self-training and, in the long run, puts job performance on the same basis.

How to pose the subject up for discussion, how to control the conduct of the group, how to conclude, and other tested practices of conference training procedure are carefully outlined in this book and its two appendices.

Exterminate the Goose Quillers!

LET'S WRITE GOOD LETTERS, by Sherman Perry; American Rolling Mill Co., Middletown, Ohio; $1.00.

If your organization always turns out impressive-expressive letters, this little red book is not for you. On the other hand, if the "goose quillers" out your way are in need of extermination, the correspondence advisor of Armco has some dandy prescriptions to suggest.

Written for the new girl in gingham and the old chap in denim as well as the emblem-studded expanding vest, Mr. Perry's book doesn't tell everything the good correspondent ought to know but it's bound to perk up your thinking about the next letter you sit down to write. And, what's more, the author has taken the mix-up out of lots of common words by lining them up beside one-word descriptions or linking them to the proper prepositions.

Hosiery Testing

FIDELITY ROLANDÉ SYSTEM—Manual of Instructions; Fidelity Machine Co., 3908 Frankford Ave., Philadelphia; $10.

About two years ago the Fidelity-Rolandé system for reduction of hosiery seconds through positive control of stitch size was introduced to the textile industry. This system, which is based on a new principle of course-checking off the machine, was placed in successful operation in a number of leading hosiery mills. For making the tests, an instrument known as the Cobert course counter is employed. This manual gives full details for leg and foot tests, establishing standards, and adjusting the knitting machines. In addition, it contains data on causes and remedies for irregular lengths. Full-fashioned hosiery manufacturers who are not familiar with the Fidelity-Rolandé system will find a clear explanation of it and its advantages in this manual.

"A Textile Library in Brief"

THE TEXTILE RECORDER YEARBOOK, 1941; Harlequin Press, Old Colony House, South King St., Manchester 2, England; 10 shillings 6 pence.

This issue of the Textile Recorder Yearbook is the second to be produced during the war. Despite the difficult situation under which it has been edited and revised, necessary adjustments to bring its contents up-to-date have been made. Subject headings of ten sections into which the book is divided indicates its scope: cotton, woolen and worsted, rayon, silk, flax and linen, jute, hosiery and knitting, microscopy and textile testing, power transmission, and miscellaneous including humidification, patents, etc. A previous reviewer has called this book "A Textile Library in Brief."

Good Gasless-Sunday Reading

WIND BEFORE RAIN, by John D. Weaver; Macmillan Co., New York; $2.50.

This novel is like the usual family argument. It goes round and round and winds up with hard feeling and no progress. Only the family here happens to be all the mountain folk who lived in a certain section of the Southern High-

lands which was the proposed locale of a cotton mill. The congregation of the Cassville church split over the question of whether to sell their mountain homesteads and move over to the newly erected mill village or to forego the alluring cash wages and white houses for the poverty and freedom of the hills. Standing pat for the latter was Hobe Kelvin, who saw his friends leave him for the selling faction, then saw them return to him and his staunch leadership. Mixed in with this swing of the pendulum were the births, marriages, and deaths of the community, including the marriage and death of Hobe.

It's an easily read novel, a good study of mountaineer psychology; and to those who have employed in their textile plants people from the Highlands, it should be interesting reading for a hot Sunday in a gasless era.

WESTINGHOUSE ELECTRIC & MFG. CO. recently awarded the Westinghouse Order of Merit to six employees for distinguished service, by vote of the board of directors. Photograph shows M. W. Smith, vice-president in charge of engineering, presenting the medal of the order to C. A. Drake, manager of the general mill section of the Westinghouse Engineering Division at East Pittsburgh, Pa.

News of Suppliers

Textile Machine Works, Reading, Pa., has distributed to every resident of Wyomissing borough a history of that community—"The town in a park." The souvenir marks also the semi-centennial of Textile Machine Works which was established at 222 Cedar St., Reading, in 1892, by Ferdinand Thun and Henry Janssen. Removal was made to the present location in 1905, and in 1906 residents of the vicinity agreed to incorporate and in July of that year a borough charter was issued under the name of Wyomissing.

Acme Steel Co., Chicago, has transferred K. J. Pedersen to Charlotte to handle sales in North and South Carolina, according to Frank H. Webb, southeastern sales manager for Acme at Atlanta. The death of F. G. German and the induction of G. R. Easley in the U.S. Army made the shift necessary. Mr. Pedersen will maintain headquarters at 2243 Selwyn Avenue, Charlotte, N. C.

K. J. PEDERSEN, Charlotte representative, Acme Steel Co.

Crescent Corp., Fall River, Mass., has established a textile machinery reconditioning plant in one of the buildings of the Irene Mills, Gaffney, S. C. S. E. Hunsuck is superintendent of the branch.

American Viscose Corp., New York, reports that requests have been received for more than 17,000,000 pieces of printed literature in answer to advertisements in connection with its rayon hosiery educational campaign.

Warwick Chemical Co. has moved to new and larger offices at 580 Fifth Avenue, New York, where it has been located for some time. The expansion was celebrated by a party at which Ernest Nathan, president of the company presided.

William Crabb & Co., Newark, N. J. —The operation and management of this pioneer manufacturer of lags, lagging-pins and teeth for the textile industry was recently taken over by J. C. Bennett, who will continue the products and policies of the company, while at the same time offering its facilities to produce specialties not related to its regular lines. This year marks the 72nd anniversary of the founding of the company.

Stewart Machine Co., Gastonia, N. C. —Ed. S. Kempton and his associates have purchased this company and will continue to operate the business under the name Stewart Machine Co., Inc., manufacturing ring holders, bolsters, whorls, lifting rods, bushings, etc. The company operates its own foundry in connection with the machine shop and employs between 75 and 100 men. Plant is running in part on materials for the Navy. Mr. Kempton also operates Kempton Parts & Spring Co., which will continue separately from the Stewart Machine Co., Inc.

Henry K. Barnes Co., Salem, Mass., tanners and manufacturers of leather for industrial use, have installed a public address system in their tannery, factory and offices. Programs emanate from the main office where are a radio receiver, amplifier, microphone and record player. Broadcasts, transcriptions and announcements are carried to employees by means of 12 speakers distributed so as to bring all workers within earshot. This innovation, installed by direction of Walter M. Ray, president of the company, has been favorably received by the employees.

Monsanto Chemical Co., St. Louis, Mo., has promoted Julius A. Berninghaus, general manager of sales of the Organic Chemicals Division, to be general manager of the division. He succeeds John W. Livingston, who resigned to become consulting engineer to the Rubber Reserve Co., the Federal agency dealing with the provision of facilities for synthetic rubber production.

Foxboro (Mass.) **Co.'s** brass band, made up 100% of Foxboro employees, played its first concert recently. Frequent concerts will be given during the summer. In an item in the *Foxboro Recorder*, rules for civilian respect to the flag were quoted from a recent issue of TEXTILE WORLD, for information in connection with the playing of the Star Spangled Banner at the end of these concerts.

Pennsylvania Salt Mfg. Co., Phila-

G.E. to Produce Billion Dollars in War Goods in 1942

GENERAL ELECTRIC management confidently expects to produce approximately a billion dollars worth of highly-diversified war materials during 1942, Charles E. Wilson, president of the company, told the annual stockholders' meeting held recently in Schenectady. The March output was at an annual rate of $860,000,000, which was achieved without the benefit of new plants not yet in operation and without complete use of recently added facilities.

and Product Development is Speeded up

With the raw material situation daily challenging our ingenuity, it is a comfortable feeling to have our forty odd years of research behind us, and safely recorded in our laboratories.

Thus we go on from here—stimulated by the pressure and speed of our emergency problems, confident that many new and good ideas will come of it all.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

W. W. JOHNSON, salesman for the Georgia Textile Machinery Co., Atlanta, Ga., chugged into Atlanta to discuss a million-dollar sale to the Government in a Model T Ford that had cost him $25. Johnson bought the car for business travel, he said, because the car makes 28 miles to the gallon of gasoline. There is no top to the car and, when it rains, Johnson uses an umbrella.

delphia.—Harry M. Ellsworth, advertising manager of this company, has been elected vice-president of the Eastern Industrial Advertisers Association.

Eavenson & Levering Co., Camden, N. J., announces that all stock in its possession will be covered by the Government's new War Damage Insurance Plan, effective July 1, 1942, unless the customer himself is carrying this type of insurance.

B. F. Goodrich Co., Akron, Ohio, has created a chemical and pigments department in the purchasing division of the company, and appointed Dr. V. E. Wellman as its manager.

York (Pa.) **Ice Machinery Corp.** has appointed James C. Tweedell, its export manager, to the post of general sales manager for the duration, succeeding John R. Hertzler, who will undertake a special assignment in a civilian capacity with the Army-Navy munitions board in Washington.

Elastic Nut Corp., Union, N. J., has announced reduction in prices of 415 items of anchor, gang-channel, and instrument-mounting types of Elastic stop nuts, effective July 1.

Elwell-Parker Electric Co., Cleveland, Ohio—Newly elected officers following the death of former-president Morris S. Towson, are: S. K. Towson, president and general manager; W. A. Meddick, vice-president.

S. K. TOWSON, president, Elwell-Parker Electric Co.

Howard Bros. Mfg. Co., Worcester, Mass., has appointed Charles A. Haynes, Jr., as sales representative in the northern cotton-mill territory as well as for some woolen mills in Rhode Island and Connecticut. He succeeds his father who has become superintendent of Interlaken Mills, West Warwick, R. I. Mr. Haynes, Jr., has had mill experience from picker room to boss weaver.

Fitchburg Spinners Sales Corp., Fitchburg, Mass., has appointed the following representatives: Percy Yeates, 38 Chauncy St., Boston; Paul Davenport, 93 Worth St., New York; Frank Sundberg, 604 Baer Bldg., Reading; John N. Tracy, 629 Chestnut St., Philadelphia.

Pomona (Calif.) **Pump Co.** has elected C. Granniss Bonner as treasurer of the company. Mr. Bonner was formerly comptroller and more recently treasurer of Brunswick-Balke-Collender Co., of Chicago. He relieves Donald C. McKenna, vice-president, and former treasurer, who will devote full time to the increasing production activities of the company's four plants.

Metal & Thermit Corp., New York, is conducting a competition for "Welding Briefs" in the months of July, September and November. In each of those months $300 in war bonds and stamps will be awarded in 26 prizes for photographs or sketches with explanation of welding jobs that are of interest.

General Electric Co., Schenectady, N. Y., reports net profit available for dividends for first half of 1942 as $20,681,433, against $26,003,665 the year previous. Total income for the recent six months was $114,681,433 against $78,003,665 the year previous, but larger deductions for taxes and contingencies (totaling $94,000,000 in 1942, against $52,000,000 in 1941) resulted in the lower profit available for dividends. Net billings in 1942 were 37% over 1941, for similar periods.

General Dyestuff Corp., New York—Col. Louis Johnson has been appointed to serve as president of this company by Leo T. Crowley, Alien Property Custodian, who took over control of the company on July 6.

Fabric Research Laboratories, Inc., Boston, Mass., has established facilities for research, testing and consulting for the textile and allied industries, with office at 665 Boylston St. E. R. Kaswell is president.

Allis-Chalmers Mfg. Co., Milwaukee, has appointed S. H. Mortensen, engineer-in-charge of A-C design for 10 years, to be chief electrical engineer of the Allis-Chalmers plants at West Allis, Cincinnati, Boston and Pittsburgh. He started at the Allis-Chalmers Norwood works in 1905.

C. A. MABEY, director of research, Bristol Co.

Bristol Co., Waterbury, Conn., has appointed Charles A. Mabey to be director of research activities.

Stewart-Warner Co., Chicago, has elected Lynn A. Williams, Jr., secretary of the company and head of its legal department, to be a vice-president of the corporation, also.

De Laval Steam Turbine Co., Trenton, N. J., has been selected by the Navy Board of Production Awards to receive the Navy "E" for excellence in industrial production. Formal presentation was made on June 29.

Wheelco Instruments Co., Chicago, has established a school to enable plant and office employees to gain a better knowledge of instruments, their construction and their use by industry.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., has appointed Herschel E. Post as general sales manager of industrial finishes with headquarters at Pittsburgh. Mr. Post previously was manager of the company's Houston, Texas, paint plant.

Link-Belt Co., Chicago—In tribute to the memory of James Mapes Dodge, one of the founders of Link-Belt Co., a great engineer, inventor, leader and humanitarian, June 30 was declared "James Mapes Dodge Day" and celebrated with fitting ceremony at the company's Nicetown, Philadelphia, plant. Mr. Dodge was chairman of the Link-Belt board with headquarters at the Nicetown plant, at the time of his death in 1915.

"Minute Men" Plants

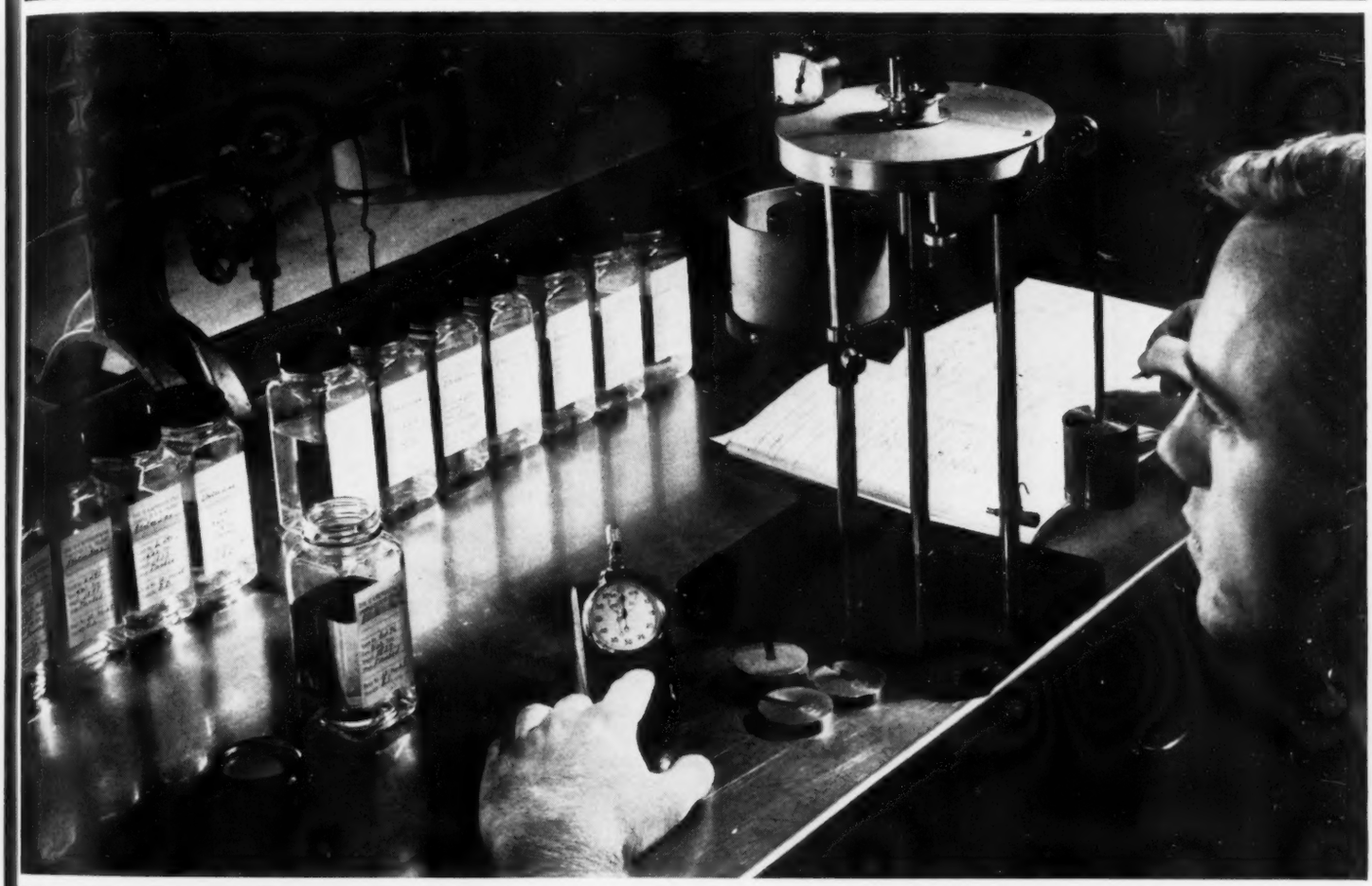
Among plants awarded the Minute Men Banner for high percentage participation by employees in war-bond purchases are the following:

National Starch Products, Inc., eastern plant, Plainfield, N. J.

Foxboro (Mass.) Co.

Steel Heddle Mfg. Co., Philadelphia.

How many centipoises?



THE VISCOSIMETER. The Viscosimeter is used to determine the viscosity of sizes, gums, thickeners, and printing pastes. The viscosity of the liquid in question is measured by the rate of spinning of a hollow cylinder immersed in the liquid. The cylinder is spun on its own axis by means of a hanging weight and a system of pulleys. The faster the cylinder spins under a given load, the less the viscosity of the liquid. Relative viscosity is measured by the number of seconds required for the cylinder to make one hundred revolutions under a certain load.

YOU DON'T TAKE CHANCES!

To guard against unseen errors, to ease the transition from laboratory to plant, the Textile Division of the Rohm & Haas Company has established three textile laboratories, each one with its own indispensable function:

The Research Laboratory, for basic research in the chemistry and physics of textile products and processes; the Evaluation Laboratory, where the findings of the Research Laboratory are tested and evaluated; and the Sales Service Laboratory, where customer problems are handled and the findings of the Research and Evaluation Laboratories are subjected to conditions simulating as nearly as possible actual mill conditions.

TRITONS—*Synthetic detergents, emulsifying, wetting, and dispersing agents.*

RHOTEXES—*Synthetic gums for sizing and thickening.*

DEGOMMAS—*Concentrated diastatic and proteolytic enzymes for desizing.*

RHOPLEXES—*Aqueous resin dispersions for finishing and coating fabrics.*

RHONITES—*Modified urea formaldehyde resins for textile finishing.*

PROTOLIN—*Stripping agent for wool stock and piece goods.*

FORMOPON—*Reducing and stripping agent in acid systems.*

LYKOPON—*Reducing and stripping agent in basic systems.*

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Leather and Textile Specialties and Finishes . . Enzymes . . Crystal-Clear Acrylic Plastics . . Synthetic Insecticides . . Fungicides . . and other Industrial Chemicals

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Wartime dyeing of textiles is covered in a series of bulletins published by Calco Chemical Division, American Cyanamid Co. containing detailed information about the dyeing of yarns and fabrics. Bulletin No. 650 "Military Shades on Cotton Thread Vat Dyed on Packages by the Pigment Method" contains a review of government specifications governing the dyeing with pigment colors. It also contains samples of dyed yarns along with dyeing procedure. Bulletin No. 646, "Dyeing of Olive Drab No. 3 and No. 22 Shades with Sulphur and Vat Dyes on Cotton Yarn for Webbing" contains the U. S. Army specifications for dyeing cotton yarns for webbing, samples of dyed yarns, and dyeing procedure. Bulletin No. 654 "Microscopical Observations for Union Dyeing" is a 15-page article covering the union dyeing of various types of synthetic and natural fibers. Bulletin No. 655 "United Victory Colors for the 1942 Fall Season on Cotton Warp Worsted" contains formulas for dyeing with the United Victory colors.

Chemicals are cataloged in a new 170-page book, 26th edition, "Monsanto Chemicals" published by Monsanto Chemican Co. This catalog contains chemical names, trade names, formulas, standard forms or grades, uses and general information concerning several hundred chemicals and plastics. A general technical section includes tables of physical constants for some of the more common chemicals. As distribution of the book is controlled, requests should be made on business letterheads.

Air conditioning equipment used by various industries is illustrated in a catalog published by Carrier Corp. Equipment suitable for mills processing rayon and Nylon is shown and described.

Venturi-Flo diffusers of the recessed, surface flush and of the thermostatically controlled types are illustrated and described in catalog F-1497-2, issued by Barber-Colman Co.

Ring spinning of worsted yarn is discussed in an article in the July issue of *The Traveler*, published by Victor Ring Traveler Co.

Advantages accrued through the services of a consulting organization and the various phases of textile mill operations that may be studied by such an organization are pointed out in a booklet issued by Textile Industry Research, Inc.

Apprentice school sponsored by Draper Corp. for the training of toolmakers and machine tool designers is described in the July issue of *Cotton Chats* published by Draper Corp.

Protection against fire, theft, accident, and explosion is described in a folder entitled "Vandals in the Night" published by Chicago Watchclock Corp. Illustrated and described are several descriptions of watchmen detecter system equipment.

Handling yarn in a dye plant by means of overhead electric hoists is described and illustrated in *Cleveland Crane Graphic*, published by Cleveland Crane & Engineering Co.

Air cooled induction feed regulation, its advantages, and outstanding design features are covered in an 8-page booklet B-3080, issued by Westinghouse Electric & Mfg. Co.

Used power plant equipment and machinery available for various industries is listed in *Consolidated News*, published by Consolidated Products Co., Inc.

Fluorescent lighting units suitable for installation in textile mills and other industrial buildings are discussed in Catalog No. FL-5, issued by Wiremold Co.

Long-draft spinning, discussed from the standpoint of its history, present status and future possibilities; new head end for spinning frames; tapered bobbin bushings for high-speed spinning; a new type motor drive for flat cards; nep counts; and the revamping of overhauling schedules to meet war-time production demands, are a number of items covered in the April issue of *Saco-Lowell Bulletin*, published by Saco-Lowell Shops.

Technical data covering the selection, installation, operation and maintenance of all types of industrial pumps for general and specialized services are covered in a data folder entitled "Goulds Pump Data Sheets." An 18-page booklet entitled "Pump Fundamentals" is included with this folder, which is offered by Gould Pumps, Inc.

Wartime maintenance of textile equipment, especially woolen cards and mules, is discussed in an article entitled "Wartime Production Brings Changed Maintenance Methods". This story appears in the June-July issue of *Davis & Furber News*, published by Davis & Furber Machine Co.

Belting efficiency is the subject of an article dealing with belt drives and covers the important matters of belt alignment, conserving belts and the part that continuous production plays under present conditions, and which appeared in the June issue of *The Houghton Line* published by E. F. Houghton & Co.

Commemorating its 50th anniversary, a 48-page booklet entitled, "Fifty Years of Chemical Progress," is issued by Mathieson Alkali Works, Inc. This booklet traces growth of the company and describes its developments in various fields, such as the introduction of liquid chlorine and synthetic ammonia, the preparation of new bleaching agents, detergents, etc.

Woolen and worsted manufacturers will be interested in a booklet recently issued by Munro, Kincaid, Edgehill, Inc., which shows the grease prices of wool when the clean basis and the shrinkage are known.

Bulk-Flow elevator conveyors designed as a power-operated conveyor system for positive and continuous conveying of crushed and ground materials are described, along with diagrams showing paths of operation, in a 32-page catalog No. 2075 published by Link-Belt Co.

Non-indicating temperature and pressure controllers, as manufactured by C. J. Tagliabue Mfg. Co., are described in catalog No. 900E.

Rayon warp sizing from the British point of view should prove of interest to many readers, and a discussion of stretch in rayon sizing may contain some valuable hints for mill men; both articles appear in the May issue of *Rayon Warp Sizing Specialist*, published by Charles B. Johnson Machine Works.

Tension to be used at the winder to break out weak places in a yarn without weakening the yarn, and the use of empty bobbin conveyors on winders, are two of the items discussed in "Getting the Most from Winding," No. 33, published by Universal Winding Co.

Preventive maintenance of twisters, especially with regard to worm gear twist units, spiral gear twist units, traverse motions, oilless bearings and care of spindle belts is featured in the June issue of *Atwood Twists*, published by Atwood Machine Co.

Corrosion resistant pipe, tubes and fittings of carbon and graphite pipe along with much technical information concerning the resistance of these products to various chemical elements and compounds, is covered in catalog section M-8800A, offered by National Carbon Co., Inc.

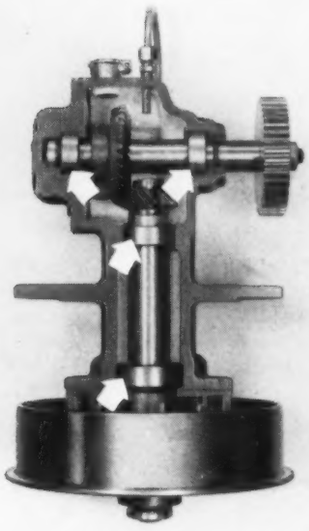
"Fatigue of Metals," an interesting book intended for the designing engineer covers practically all cases of fatigue in many alloys and devotes an extensive section to fatigue testing machines. This book, 88 pages, is published by The Nitralloy Corp.

Rubber lining for equipment handling inorganic acids and abrasives is described in a folder entitled Vulcalock Products, issued by B. F. Goodrich Co.

Maintenance of concrete floors, wood floors, walls, steel sash, tanks and structural work is described in great detail in Truscon Blue Book of Building Maintenance, published by Truscon Laboratories.

Loom motors and control is the subject of a 4-page bulletin issued by General Electric Co. describing and showing in detail the various parts and features of a loom motor and also describes in detail electric switches as used to control motors on looms.

PARACHUTES *for* PARATROOPS...



Horizontal and vertical drive shafts are both mounted on Fafnir Standard Radial Ball Bearings.

Fafnirs on the New Atwood Ring Twisters help speed the production of vital nylon cord and thread...

The new Atwood 5B Model 10 Ring Twister has found an active and responsible place in the production of nylon sewing thread and cord used in the making of parachutes for our fast growing Army of Paratroops. In the Atwood machine, as in so many other highspeed textile units, Fafnir Ball Bearings were specified in the "blueprint" stage.

To textile machinery makers and operators, Fafnir's Balanced Design – larger balls and deeper races – means higher machine efficiency and long, trouble-free bearing life under all load conditions. Fafnir friction-freedom saves power, cuts operating and maintenance costs – makes continuous, fast production possible on busy machines. The wide variety of Fafnir Textile Ball Bearings – standard and specialized – are the result of many years experience working directly with textile machinery designers. The Fafnir Bearing Company, Textile Division, New Britain, Conn. Branch offices: Atlanta, Birmingham, Boston, Charlotte, Dallas.

FAFNIR
BALL BEARINGS

Photomicrographs of silk, rayon, nylon and glass yarns. (Rayon and glass courtesy of Wm. M. Grosvenor Laboratories, Inc.)

many different yarn characteristics...

AN IMPROVED No. 50 PRECISION WINDER

For several years we have stated in our advertising: "The No. 50 Precision Winder is used for more than 90% of all the world's silk and rayon put up on cones."

Yarn requirements have changed . . . silk has disappeared . . . nylon has come in . . . other new yarns are arriving . . . yet the flexible No. 50 Winder, redesigned by Universal Engineers for each fibre, continues to wind more than 90% of all coned synthetic yarn.

With these new fibres, Universal Engineers have been faced with trends toward finer deniers, low twist yarns, and larger packages . . . and in some cases a need for improved conditioning of the yarn. Their experience has enabled them to provide a more flexible control for tension and pressure . . . and to design certain special attachments for handling fine denier yarns and yarns with high twist.

In every case, they have demonstrated that the basic design of the No. 50 Winder can be adapted to the special characteristics of each new yarn and new package requirements.

More Than 90% of All Synthetic Yarn Is Coned on Universal Precision Winders

LEESONA

UNIVERSAL WINDING COMPANY

Providence Boston Philadelphia Utica Charlotte Atlanta

THE OVERSEERS' CORNER

LEARNERS FROM THE VILLAGE

A PETE AND BILL DISCUSSION

"If that smart alec son of John Adams ever comes into my department again lookin' for a job, I'll pin his ears down," growled Bill. "Why with his education and fine manners, he makes me sick. Boys and girls now-a-days are just too smart for their own good."

Pete was almost out of the room, but this was too much. He turned—

"Bill, I do believe you are slipping. The younger generation must sure be pushing you to keep up with their quick minds and eagerness to learn."

"No, I am not slipping," said Bill, but his neck reddened. "It's just that they bother with so many questions that I don't have time for necessary things. I can keep up with them, but it burns me up for them to expect to learn it all in a week. Why, I bet John's boy thinks he'll be a super in a month or so."

"Well," said Pete, "we are going to keep right on taking as many boys and girls from our village that deserve employment as we can get. For my part, I am thankful that they are more alert and better educated than when you and I were boys. Overseers and second hands will have to know their business and be good teachers to hold the interest of this new generation. Besides you have got to treat them intelligently and hold out chances of advancement to them or we'll lose them. Other industries will attract them if we don't. Just remember that."

"Aw, let 'em go and sell potatoes," snapped Bill, still unconvinced.

Pete was almost out of the room, but this was almost too much—

Should young people from mill communities be encouraged to enter the mill as learners?

Letters from Readers

A Woman Defines Woman's Place

"Women Supervisors"
(Pete & Bill, May, 1942)

Editor, Overseers Corner:

I am a woman, born and reared in the Hill country of old Kentucky and I want to acclaim to all the world that in Pete and Bill's discussion Bill has taken the wrong viewpoint. Pete is correct in his version.

Women now-a-days are fitted for most any kind of a job—even as foremen, supervisors, I dare say, or even greater positions, especially at this crucial period when the greatest conflict that the world has ever seen rages.

The intelligence of women of today is equal to that of the opposite sex, and their work will go a long way in winning the war. They will do their part and do it intelligently—just as perfectly as the men folk.

And the prayers of the good mothers will go all the way in accomplishing a lasting peace with the warring nations —and for all time.

EDNA V. WEBB (*Ky.*)

Women Will Furnish Enthusiasm

"Women Supervisors"
(Pete & Bill, May, 1942)

Editor, Overseers Corner:

I sometimes wonder if Bill is a natural born pessimist or if he is just plain contrary, at least he seems to be fond of getting on the losing side of every argument.

At this time when man power is so precious, it seems to me that it is a practical idea as well as a patriotic duty to assign women to supervisory jobs in the mill. As Pete so aptly says I am sure they will furnish enthusiasm and drive to put over any production program.

Assuredly Bill cannot be a married man or he would have learned long ere

---

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

---

this that women are very effective bosses.

W. D. B. (*Va.*)

There Are Two Sides

Editor, Overseers' Corner:

There has been much controversy anent the recently proposed legislation to increase the working-hour limit for industry. And in the press, particlarly in the South, there has been much severe criticism of labor because of its opposition to such legislation.

Like most questions, this one has two sides, that of management and that of labor. Management has contended that if hours were increased a much larger amount of goods, much of which is badly needed for national defense, could be produced; while labor has maintained that, due to the work load having been increased greatly during the last several years, working longer hours would be almost a physical impossibility.

In my opinion, working hours should not be increased at this time. From my own personal observation, I know that in many plants of all types the employees literally have their hands full. Particularly is this the case in textile plants. In some industries, where the work load has not been increased, working hours undoubtedly could be increased to advantage without being detrimental to the health and welfare of the employees.

But that this is necessary in any industry is exceedingly doubtful. President Roosevelt has shown his opposition to all recently proposed legislation to increase working hours. Certainly if an increase was vitally necessary for national defense, or for the country's welfare in general, he would not oppose it.

EARL FARMER
(North Carolina)

Notes from the Mills

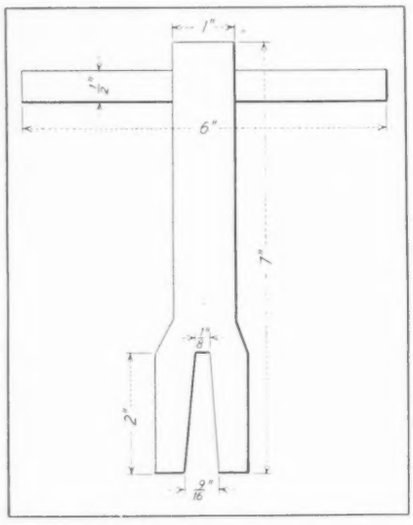
• **Rome** (Ga.) **Hosiery Mills** are training women to work in the looping department from the Georgia School for the Deaf at Cave Springs. The officials of the mill indicated that the employment of deaf women would increase the efficiency of the mill, due to the ability of deaf women to concentrate, and their supple fingers learn the art more quickly than others.

Employees of Merrimack Mfg. Co., Huntsville, Ala., and Wehadkee Yarn Mills with home office at West Point, Ga., took the lead in the Alabama textile safety contest recently. The figures were made public by Judge John D. Petree, director of industrial relations.

Overseers' Practical Helps

Tool for Use in Replacing Picker Teeth

One overseer of carding in a woolen mill had to replace a number of the teeth in a mixing picker. He always used a screwdriver to do the job, until he finally devised a handy tool to do the job with. The tool was made from



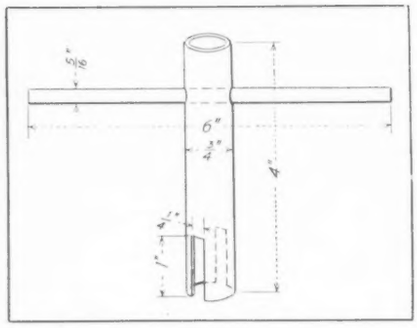
To replace picker teeth

a length of 1½ in. shaft turned and shaped to the measurements given in the diagram. After the straight cut was made, it was filed to fit a picker tooth.

W. C. K. (*Wis.*)

Socket Wrench for Wing Nuts

Usually a fixer uses an ordinary wrench for tightening or loosening the wing nuts on the bolts that hold the reed cap, and the bolts that penetrate the lay to hold the reed bed. Often a hammer is used for this purpose. This is not a criticism of this practice, but a more efficient method would be to use a socket wrench made to fit wing nuts. Such a socket wrench is easily made from a short length of pipe. The pipe should be of such a diameter that it will fit over the hub and wings of nut. The length should be at least 4 in. One end of the pipe has slots cut in the sides as illustrated. Holes are drilled through the other end for a handle, made of a piece of steel rod.

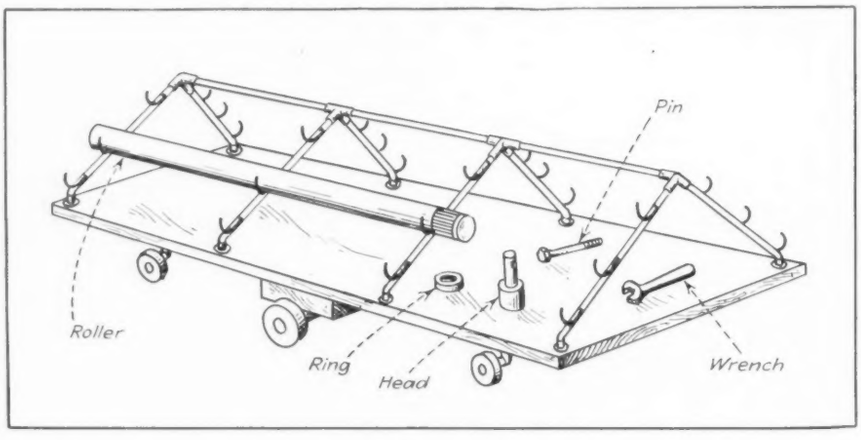


Socket wrench for wing nuts

C. S. B. (*Pa.*)

Rack for Slasher Rolls

One of the problems confronting the overseer of any beaming room or slasher room is what to do with the extra pressure rollers, roller heads, pins, etc., so that they will be handy when needed, yet will not be scattered around on the floor, constituting an accident hazard. We solved this problem by having our



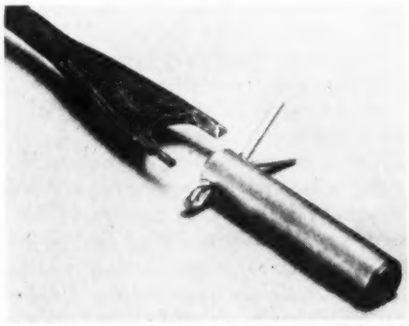
Truck for slasher rolls and tools

machine shop build a heavy rack, on wheels, for this equipment. For a very large room, more than one rack might be needed. As shown in the illustration, the rollers are hung on hooks, and the other equipment is stored on the flat bed of the "truck." The length and weight of the pressure rollers, and the number that must be stored will determine the size of the rack, and the material from which it will be made.

P. L. H. (*S. C.*)

Cotter-Pin Opener

For opening cotter pins, one of the employees of Westinghouse Electric & Mfg. Co. constructed the device shown in the accompanying illustration. Use of the device saves time and speeds production. An end resembling a screwdriver blade is cut out, leaving two prongs. One prong is rounded to fit the eye of a cotter pin; the other prong is flattened to facilitate opening of pin. Heat treated tool steel used.

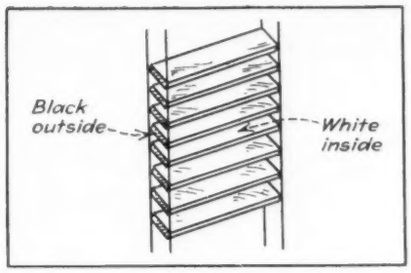


Westinghouse Electric & Mfg. Co.

Cotter-pin opener

Dim-Out Blinds

Since dim-outs are necessary in many localities to reduce glare from lights in textile mill buildings at night, and at the same time it is essential to conserve the use of electricity for lighting, I should like to propose a plan for shading windows which I think would accomplish both these ends. For a number of years, mill supply houses have furnished Venetian blinds for all types of windows. As most of us know, these blinds are so constructed that they do not interfere with natural ventilation, and when not needed they may be readily folded up out of the way. By painting the regular Venetian blinds a somber black on the outside and a light shade on the inside, and adjusting the slats of the blinds to the proper angle, say 45°, they may be converted into dim-out shades. This should permit natural ventilation, prevent the escape of illumination through the glass areas,



Dim-out blinds

and by virtue of the reflective properties of the light paint on the inside, the electric lighting system would be rendered more efficient.

J. W. H. (*N. C.*)

To Lock Screws

In machinery where there is considerable vibration, short screws have a tendency to work loose, especially where thin plates are fastened together with flat head screws.

A simple and effective way to overcome this difficulty is to solder the screw heads to the adjacent metal. If the threads are worn loose, the screws may be soldered in for their whole length.

They can be removed quite easily by applying a soldering iron to the head of the screws when making replacement of parts.

W. A. S. (*N. H.*)

Preventing Neps in Army Twill

Precautions necessary in carding, weaving and dyeing

SEVERAL MILLS which are producing herringbone twill for Army uniforms have found it difficult to avoid neps in the finished fabric. Others have experienced little trouble. Recently a sample of twill containing a large number of prominent neps was submitted to our Questions & Answers Department. The mill had tried slower carding and doubling its stripping, but results still were unsatisfactory. It is believed that the following suggestions made for overcoming the difficulty will prove helpful.

Two problems are involved: (1) neps in the gray goods; and (2) improper dyeing.

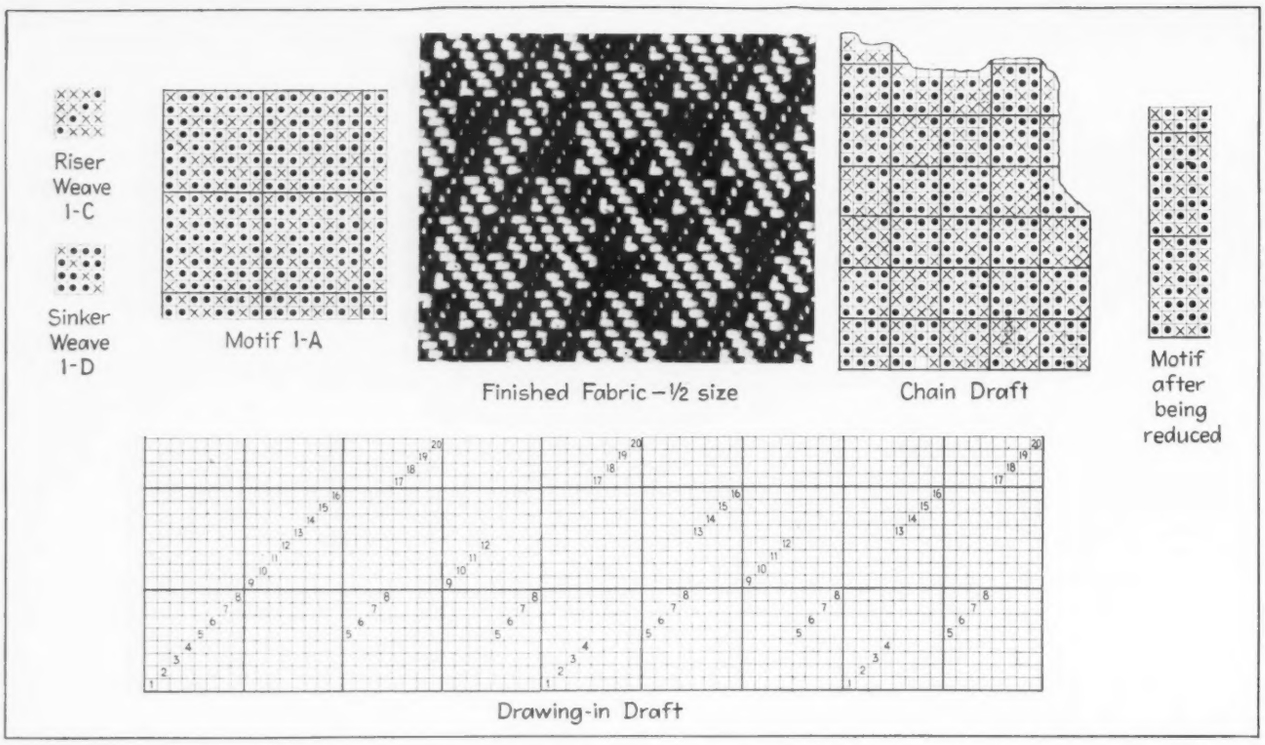
Slower carding and double stripping will not help much, unless the settings and speeds are right. The following are prerequisites of good carding: The mechanical condition of the card must be good. A sharp licker-in is necessary, as a dull licker-in will make neps. Good, well-ground clothing is required for cylinder, flats, and doffer. The following settings are suggested: 15- to 16-oz. lap; lengthen present card draft; allow the licker-in more time to work stock; lighten card sliver; adjust card settings to give the cleanest web possible; set flats close to cylinder—0.008 to 0.010 in.; speed up flats; set comb to doffer so it will not take the neps off the web; and slow down present doffer speed. Use 100s clothing for the cylinder and 110s for the doffer and flats.

Some of the trash and neps can be taken from the yarn after it is spun by using the closest possible setting on the winder or spooler. The fabric should be given a thorough brushing before it is packed for shipment to the finishing plant.

It is essential that this fabric be manufactured on looms having rubber-covered sand rolls instead of the conventional perforated tin covering, as the perforated tin covering will prick the fabric and roughen the surface, giving the appearance of neps. Similar trouble has been encountered on Army tent duck where the tin-covered sand rolls roughened the surface and, after it was dyed, the abraded surfaces had a tendency to absorb more dye, causing specks.

Some neps are bound to occur in the gray goods, regardless of the precautions taken to prevent them. Improper dyeing methods will accentuate the neps; proper dyeing methods will help to cover them up and make them less prominent. That is, if the dyeing operation is carried out in such a way that surface dyeing is obtained, rather than good penetration, the neps are likely to take up a little more dye than does the body of the fabric. As a result, the neps will be darker than the rest of the cloth, having the appearance of black specks. On the other hand, if good dye penetration is obtained, the neps will not be darker than the rest of the cloth, and will not be objectionable in appearance.

The vat colors used on herringbone twill have some tendency to give surface dyeings. However, this can be



overcome by slight modifications in the method of handling the goods in the finishing plant. First, make sure the fabric is thoroughly bottomed so that it will be absorbent. Second, make whatever changes are necessary in the dyeing procedure to obtain good penetration; use of a good penetrant in the dyebath or a little more pressure on the nip rolls of the padder may be all that is needed. If penetration is still lacking, the dye manufacturer will undoubtedly be able to help in working out a suitable procedure.

In brief, follow the carding procedure outlined above to eliminate as large a percentage as possible of the neps; avoid use of tin-covered sand roll in weaving to prevent roughening of the surface of the fabric; and modify your dyeing procedure so as to obtain better penetration of the dyes.

Interesting Design Possibilities

Fabrics produced on hand-loom are duplicated on power machines

By FRED W. STERLING

Unusual in several respects is a hand loom constructed by Mr. Sterling on which he has woven numerous fabrics which can be reproduced on power looms. Descriptions of some of the more interesting of these fabrics and of the loom itself will appear in a short series of articles, of which this is the first.

HAND WEAVING has taken its place as an important factor in the styling and design of many unusual weave effects. Designers and stylists in many of our larger fabric fields study with interest the many possibilities of design and yarn combination suggested by hand-loomed samples. Articles which appeared in the December, 1941, and January, 1942, issues of TEXTILE WORLD discussed the original design possibilities of hand-loomed fabrics and described the recent expansion of commercial hand-weaving facilities.

Rough home-spun type fabrics using plain heavy yarn or novelty yarns are particularly adaptable to hand weaving. Draperies, necktie fabric, upholsteries, table covers or runners, neck cloths or mufflers, and women's coating material are a few of the fabrics made. But no limit is placed on the types of yarns that can be woven or combined nor on the fibers that go to make up these yarns. In short, almost anything goes in hand weaving.

Fabrics shown in this series of articles, although worked-out on a hand loom of novel construction of 25 harnesses, may be produced on power looms with a dobby motion as the harness chain and the drawing-in drafts are exactly the same for both looms.

A heavy coating fabric construction developed from a small weave is illustrated in Fig. 1. Each riser in the motif is represented by one complete repeat of a $\frac{3}{1}$ weave, and each sinker by a $\frac{1}{3}$ weave. The development of this design is shown.

Work up the design chain draft of the expanded design by using the motif chain draft *1-B*. Rule off 4x4 squares on design paper with one square for each riser and sinker in the chain draft. Put in the small riser weave *1-C*, for each riser indicated by *1-B* and the small sinker weave *1-D* for each sinker indicated in *1-B*.

Develop the design drawing-in draft from motif *1-A* by repeating the harness up to 20 as designated by the drawing-in draft of the motif. Thus harness 1 would now be (1, 2, 3, 4) and harness 2 would be (5, 6, 7, 8) up through harness 5 which would be (17, 18, 19, 20). By checking the developed draft against the motif draft, the method is apparent. All warp yarn is black, whereas filling yarn is white. Other fabrics to be described later in this series are developed in a similar manner and are suitable for women's wear, drapery fabrics, and the like.

QUESTIONS & ANSWERS

Parachute Cloth

Technical Editor:

We are interested in submitting bids on silk parachute cloth, Specification No. AN-CCC-S-371. We have written to the War Department, Air Corps, Materiel Division, Wright Field, Dayton, Ohio, for additional information, but we shall be grateful for any information you are able to give us on weaving, such as sley, picks, etc., as well as on finishing. (8865)

When submitting bids on parachute, make allowances for unexpected conditions that might arise. If an 85% or lower grade is received on the sample submitted, difficulty in complying with requirements may be expected. And there is a considerable amount of poor chops placed into work.

On the 2 x 1 twill weave the usual entry is straight draft, lifting shafts 1–4, 2–5, and 3–6. The skip usually is preferred lifting, 1–2, 3–4, and 5–6, tying each set of two shafts together to avoid defects such as lowered shafts because of harness-cord breaks, etc. A test run on both entries should supply the answer as to which is preferred.

In the take-up, make certain the exact count is woven in the cloth. This often requires a pickwheel 2 picks under, and often as high as 4 picks under. With some few extreme out-of-count take-up motions, a pickwheel over-count must be used. Count the picks woven in the fabric at start-up after the start has woven past the pressure roller. It is sound practice to have picks counted on all cuts; this is done in the inspection room. Such procedure catches errors and reduces defective cloth to a minimum. An over-count pick is one of the most severe defects in parachute cloth, as extra weight must be guarded against.

In regard to other defects: small selvage loops are frowned upon, even those minor loops no longer than a pinhead. Tight marks are passable if not too many occur in a piece. Loose marks are distinctly destructive, as are grease and oil spots. Avoid floats and slough-offs. Minor slugs are passable. Rough cloth caused by kinks and over-beating must be avoided.

Shedding should be timed so that the closing is about $\frac{1}{8}$ in. after the reed has passed the fell of the cloth and is going back. This timing will keep the width more uniform and result in neater selvages. If a slight appearance of overbeating is noticed, add additional weight. Run with a wide-open shed, slightly more than accustomed to, as the wider shed breaks open small knots, etc., giving less trouble with tiny floats.

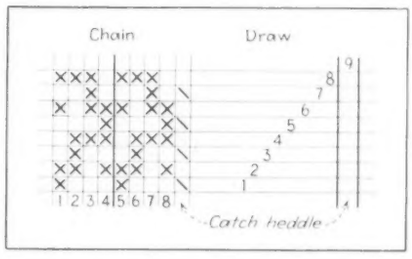
Extra weaving help may be necessary, as all cloth must be free from short lengths of filling-changes, pulled-in warp ends, etc. If grease or dirt spots are encountered, clean with fluid to remove. The cloth is given a light cleaning to remove excess oils and gum; oil or grease spots usually fail to come out satisfactorily in this operation. If possible, cover all exposed surfaces about the loom to prevent weavers and fixers from soiling the cloth. All employees must be cautioned to keep hands clean and avoid touching the cloth at any time.

Woolen Blanket Construction

Technical Editor:

In reference to Question & Answer 8716 which appeared in your June issue, our weave room foreman is interested in having several points clarified. In layout No. 2, after the leading word "draw," you use the phrase "catch harness No. 5." In layout No. 3 after the leading word "chain," you say "same as in layout No. 1," although no chain specification is listed under No. 1 layout. (8866)

The chain and draw illustrated will be suitable for either Nos. 1, 2, or 3 layouts. Also note that it is possible to obtain the same weave on four harness, plus catch heddle, as 5, 6, 7, and



Chain and drawing-in-draft for a high-grade woolen blanket.

8 on the chain are the same as 1, 2, 3, 4. The weave room foreman should experience little difficulty in following the chain draft.

The reason for working a catch heddle is to keep the filling from running in at the sides. Due to the nature of the weave, this would result if one did not use a catch heddle (a double end at each side of the warp, working plain). In fact, the catch heddle serves a double purpose; first, it keeps the filling from running in; second, it assures a perfect edge on each side of the blanket. You will readily see how important it is to use the extra heddle on the weave suggested.

Cause of Holes in Rayon Hosiery

Technical Editor:

We are inclosing herewith four stockings, of which three are 75-den. and one 100-den. We shall appreciate your opinion as to what is causing the holes throughout the legs of each of these stockings. You will notice two of these 75-den. stockings have not been boarded, the holes and small white spots having been detected before pressure was applied on the boarding form. To overcome the thought of this being some chemical, or dye causing a chemical reaction, we have sent several lots to various dyehouses around our city, to meet with the same result.

Could this possibly be the cause of insufficient oiling of the yarn at the throwing plant, since every other possibility, such as mildew, inferior knitting machines, and dye spots, has been tracked down? The only theory we can advance is that this condition has increased greatly throughout our mill during the last 2½ weeks, at which time the weather has been exceptionally humid and hot. The defect is occurring in all styles in both 75- and 100-den. rayons. (8872)

Any of the causes named in your inquiry would have probably caused holes in the narrow part of the stockings; but all of the many holes and others that were made by pulling the stockings lengthwise are between the welts and the middle of the leg narrowings. Hard pulling of the narrow part of the stockings did not cause a single hole. This is proof that your dividing and knockover are correctly set; otherwise, the holes would have been most likely to have been in the narrow part of the fabric, since there are fewer stitches to carry the strain of the slightly extra flexing of the needles which occurs there.

In knitting the broad portion of the fabric, the yarn is drawn more rapidly from the supply cones and, for that reason, is moister. Since moisture weakens rayon to a great extent, it may be possible that the yarn is just a little too moist to knit safely in the broad fabric—yet only a little because it is dry enough for the narrow part of the fabric. Your statement that the trouble increased greatly "during the last 2½

weeks, at which time the weather has been exceptionally humid and hot," seems to support this theory.

We suggest that you take the stocking legs as they leave the leggers and pull them lengthwise in order to discover if the defect occurs in knitting. If not, this test can be successively applied to all other operations until the trouble is located.

In answer to your specific question, insufficient oiling could have caused trouble in the narrow fabric of the leg and foot.

Correct Sizing in Card Room

Technical Editor:

Kindly advise us as to the best method to keep correct sizing in the card room. We have Aldrich one-process pickers and use the Aldrich regain regulator for weighing laps. Of course, we realize we cannot check very easily on the picker hand and have to rely mostly on his honesty about keeping the lap weights right.

We are running 1 1/8-in. strict middling cotton and make combed yarn, 36s average. We have two processes of drawing, both of common rolls and run to Whitin Interdraft slubbing and to 8x4 regular speeders, making 4-hank roving. We run a 12 1/2-oz. lap on pickers, a 50-grain sliver on cards, and comb 780-grain lap on Whitin D4 combers. The sliver from comber weighs 60 grains, and we run six ends up on breaker drawing and six ends on finisher drawing. Drawing sliver also weighs 60 grains. We run this to Interdraft slubbers making 1.30 H.R. which goes to 8x4 speeders making 4 H.R., which in turn is spun on Whitin L.D. spinning into 36s hosiery yarn.

We have trouble keeping our numbers and have been advised by several mill men to eliminate the regain regulator and to weigh our finisher drawing on each creel and change for sizings at this point. (8864)

Correction of picker laps to moisture regain is essential to maintain the correct weight of laps. The correct weight of laps is necessary to maintain drawing, roving, and yarn weights.

There are various types of regain indicators in use and all give good results when properly adjusted. The type mentioned in your inquiry is based on the sound principle of the effect of the actual moisture contained in the specimen, and should give sufficiently precise corrected weight for variable regain.

The veracity of regain readings on any type of indicator should frequently be checked with a sling psychrometer and a hygrometic scale for determining regain from the wet- and dry-bulb readings. The correction factors given in the accompanying table furnish a rapid method for testing regain indicators. The standard weight of the picker lap is multiplied by the correction factor corresponding to the actual regain as shown on the hygrometic scale. This product may be used directly for comparison with weight shown on the indicator.

It is probable that failure to maintain correct yarn numbers is due not to any fault in the indicator, but to the failure also to correct drawing weights to regain. Humidity has a similar effect on drawing that it has on picker laps, and unless allowance is made for the variation in this contained moisture, drawing weights will see-saw up and down with all humidity changes.

Certain types of humidity controls assist in maintaining uniform humidity conditions, but they may not take care of rapid and extreme changes in weather conditions. For this reason, regain correction of drawing weights is as necessary as regain correction of picker lap weights to keep yarn numbers under control.

Modified lap weight indicators can be obtained that are calibrated to the standard grain weight of drawing sliver. These will give the corrected regain weight directly in grains for the humidity prevailing at the time of weighing.

In lieu of such an indicator for drawing weights, the regain factor table may be used for quickly correcting drawing to regain. It is only necessary to multiply the standard weight of drawing by the factor corresponding to the indicated regain to get the corrected weight. This corrected weight represents what the drawing should weigh at this regain, and it will often vary 1 or 2 grains above or below the standard weight. If this regain is ignored and gear changes are made to bring the weight back to standard, it will be found that the drawing so changed will be off-weight when humidity again returns to normal.

FACTORS FOR REGAIN CORRECTION

Whole Nos.	Per-cent regain (Tenths over whole numbers)									
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
1	0.944	0.945	0.946	0.947	0.948	0.949	0.950	0.951	0.951	0.952
2	0.953	0.954	0.955	0.956	0.957	0.958	0.959	0.960	0.961	0.961
3	0.962	0.963	0.964	0.965	0.966	0.967	0.968	0.970	0.971	0.972
4	0.972	0.973	0.974	0.975	0.976	0.977	0.978	0.979	0.980	0.980
5	0.981	0.982	0.983	0.984	0.985	0.986	0.986	0.987	0.990	0.990
6	0.990	0.991	0.992	0.993	0.994	0.995	0.996	0.997	0.998	0.999
7	1.000	1.001	1.002	1.003	1.004	1.005	1.006	1.007	1.008	1.009
8	1.010	1.010	1.011	1.012	1.013	1.014	1.015	1.016	1.017	1.018
9	1.020	1.020	1.021	1.022	1.023	1.023	1.024	1.025	1.026	1.027
10	*1.029	1.029	1.030	1.031	1.032	1.033	1.034	1.035	1.036	1.036
11	1.037	1.038	1.039	1.040	1.041	1.042	1.043	1.044	1.045	1.046

Warp Streaks in Spun Rayon Fabrics

Technical Editor:

We are having considerable trouble with warp streaks in rayon piece goods. Our problem seems to be due to hard sizing and uneven absorption of dyes. We are inclosing herewith a sample of the fabric showing this defect and shall appreciate it if you will let us know the cause of the trouble and how we can overcome it. (8851)

There are several possible causes of his defect. We believe, however, that it is due to improper sizing. Therefore we suggest that you first change your sizing formula so that it will contain more oil and less gelatin. Also try reducing the slasher speed slightly and increasing the temperature of the size solution. If the first two or three cylinders are covered, be sure the cloth is clean in order to assure even absorption of the solution.

Another important precaution is to prevent rolling of the ends in the squeeze rollers. If some groups of ends ride on top of each other, they receive more pressure than the others which lie singly. To minimize rolling, the section beams must be tensioned alike and must carry enough tension to offer resistance against the natural tendency of the twist to open up upon striking the bath.

The dyer may be able to save such pieces by giving the goods a more thorough boil off at higher temperatures.

These goods were woven with a single shuttle. If there is any reason to believe that the streakiness is due to yarn characteristics, there should be a change in color at certain quill or shuttle changes. The sample submitted is too short to permit determination of the uniformity of the yarn. The weaver may easily make a test by weaving twelve or more quills part way so each quill will weave about 1 in. of goods. These quills should contain yarn from different packages as received from the producer; possibly different cases and shipment. Quills may be taken from the wrong packages at the weaving mill, or have been mixed at the throwing mill.

Warp-streaks of similar appearance can be caused by weak reeds where the dents buckle at the beat up. A low reed with deep dents is advisable since all possible air space must be utilized for good running of such warps.

RAYON AND SILK SECTION—Chapter VII (Cont.)—Filling Stop-Motion

By H. E. WENRICH

MANY LOOM FIXERS do not have a working knowledge of the center stop motion; hence they often neglect necessary attention and adjustment because of an unaccountable fear of placing it out of time or causing serious defects in the cloth. When thoroughly understood, the stop motion is one of the easiest motions to fix on a loom, but when fixers neglect certain adjustments involved in the stop motion, it can cause more trouble and damage than many of the motions on the lay.

Some fixers time the motion from the position of the lay, others from the picking cam, etc. While making various adjustments on a new loom installation previous to mounting the warps, the writer makes certain required changes in setting the center stop motion and adjusts the stop motion as a motion to itself; that is, not timing it with the picking cam.

After weaving out a warp, the loom should be checked for tightening and adjustments that may have worked loose. Two bolts running through the fork stand should be changed if not already so done; the bolt head is placed through the back of the lay beam and bolted in the front. These nuts should be tested and tightened when necessary. Feeler wires should be inspected and cut wires polished, or changed around end for end, or replaced with new wires. All loose play appearing in the connector rod assembly should be taken up if needed so the fork will move without excessive play. Inspect the dagger to see that it strikes correctly in the cam bunter. If the cam bunter is chipped or the notch too deep, replace it with a new cam bunter.

The dagger slips into the dagger lever socket and is held in place by a setscrew which also is utilized as a means of fastening the tension spring on the spring stud. When increasing or reducing tension on the spring, the spring is pulled outwards slightly and twisted clockwise or counterclockwise as desired to obtain the right tension and then slipped back into place. A thin slot in the end of the stud holds the spring securely. Springs produced of brass by loom manufacturers are superior to those of piano wire and other steel springs, the brass spring allowing an even tension that cannot be surpassed. An important point in replacing springs is coiling them right. Springs should be placed on so that the tension pulls the dagger upward, but does not push it upward.

A cut-away view of the breast beam assembly, Fig. RS 38 illustrates the loom in an operating position with the shipper rod in the "on" position. The steel shield spring holds the bunter shield free off the cam bunter (frog or dog) so that if the filling should be broken, the dagger will strike the cam bunter and stop the loom. Reason for the bunter shield is that it is necessary in starting the loom after a stop-off. When drawing in warp ends or for some other reason it is necessary to stop the loom, the filling yarn will be in front of the feeler wires and not under them, so when starting the loom the shield is in the "down" position, keeping the dagger from hitting the cam bunter and knocking the shipper or brake handle out of the weaver's hands. Also, it prevents a shire in the cloth.

As the lay moves forward on the pick, Fig. RS 38, the roll on the fork stand strikes against the shield rod on the shield, forcing the shield upward so the shield spring will press against it in such a position as to hold it up when the shipper rod is on the "on" position. The roller should be kept well oiled and free to roll; otherwise the shield rod is quickly worn and will require replacement. If the rollers are too small for efficient operation, a larger roller can usually be made from a pattern chain roll.

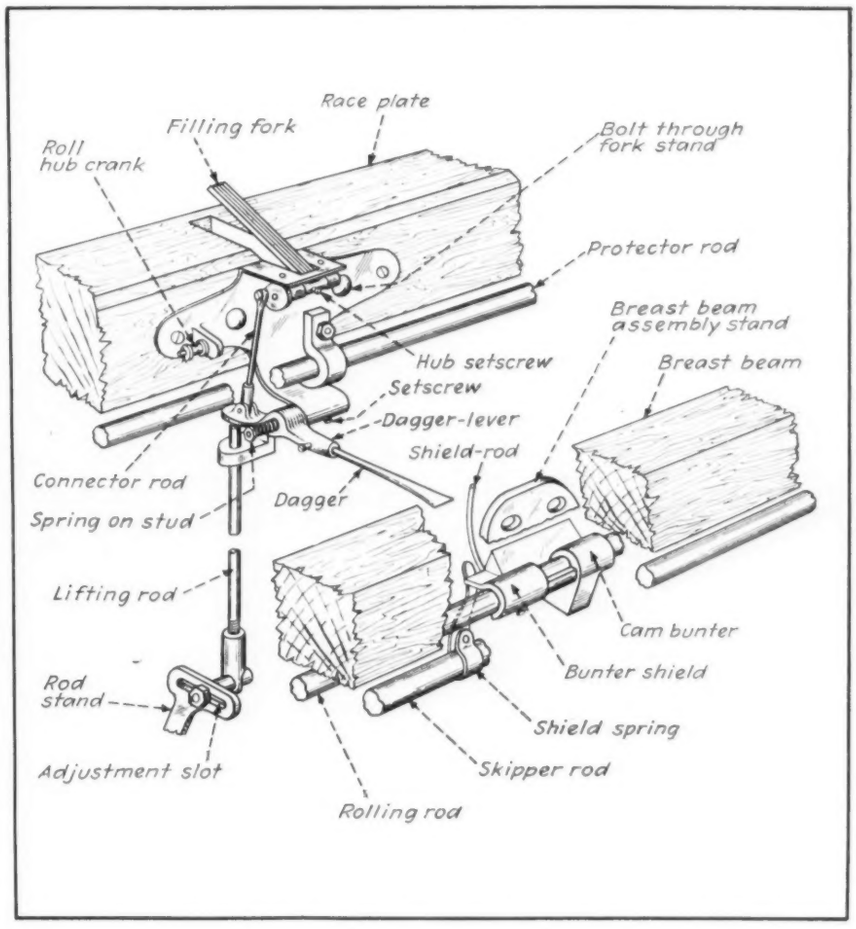


Fig. R.S. 38 Center-filling stop motion.

FIXING HOSIERY MACHINES

FULL-FASHIONED MACHINES—Chapter XVIII (Cont.)
Fabric Draw-Off and Release Mechanism

By WALTER A. SIMOND

THE FABRIC TENSION RELEASE for the rack and pawl types is adjusted as follows, according to February, 1936, issue of the *Reading Record*: "Correct setting of the fabric tension release motion is very important because the narrowing points and needles must have the regular draw-off tension released when they engage; otherwise there will be needle breakage or loss of loops. Experience has shown that best results are obtained when the release cams are set as follows:

"For cams A-6972 and A-3009 having a setting line milled on the face of a cam A-6972. If the setting line is not milled on the particular cam first scribe this line on the face of cam A-6972 according to the dimensions given in Fig. F44, using the dimension corresponding to the particular type of release mechanism with which the machine is equipped. The two types of release mechanism are shown in Fig. F45. After the setting line has been scribed on the cam, proceed as follows:

"1. Set the adjustable hook gage 1070-1 to the back catchbar cam setting and turn the camshaft to the position for setting all cams.

"2. Centralize the fabric tension release cam with the width of its cam lever roller.

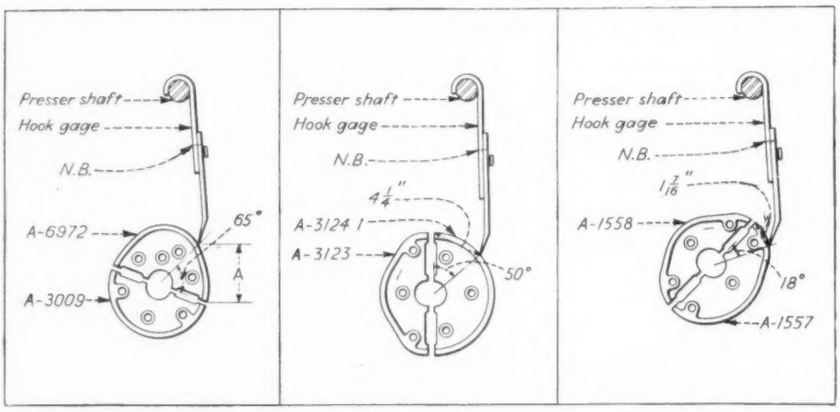


Fig. F44. Setting fabric tension release motion—Distance A equals 4½ in. for machines with rack type release motion and 5⅜ in. for machines with pawl type release mechanism. Figs. F46 and F47. Dimensions and positions for laying off setting line in relation to the different cam combinations.

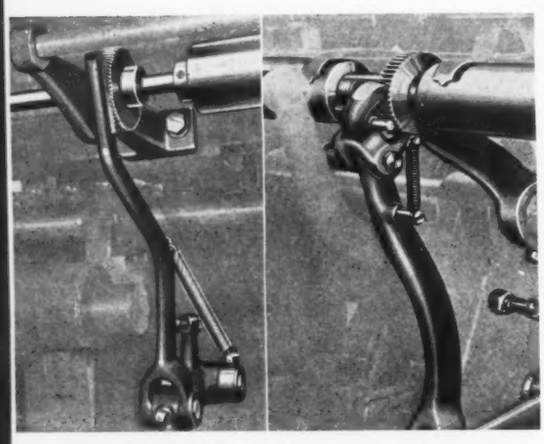


Fig. F45. Rack and pawl types of release motions: left, rack type; right, pawl type.

"3. Remove the cam lever assembly from the steel stud.

"4. Set the adjustable hook gage to the needle bar cam setting and hang over the presser shaft at the fabric tension release cam.

"5. Turn the cam until the milled line on the face of the cam is in line with the tip of the hook gage, Fig. F44, and tighten the set screws.

"6. Replace the lever assembly.

"For old type machines, with cams A-1557 and A-1558 or cams A-3124-1 and A-3123-1—Setting lines may be scribed on the cams to allow use of the hook gage in making the setting.

"Figs. F46 and F47 show the correct dimensions and positions for laying-off the setting line in relation to the different cam combinations. Note that the cams are marked with the numbers and the direction of rotation is given. After the cams are marked with the setting line, use the same method of setting the cam with the hook gage as given for cams A-6972 and A-3009."

In machines having the automatic draw-off, the fabric release is incorporated in the draw-off mechanism as shown in Fig. F48, and the amount of release of the fabric tension is controlled by the position of cam-pieces 17 and 18. Cam-piece 17 is used for regular work and cam-piece 18 for lace or mesh formation, where little release is required. To obtain the advantage of cam-piece 18, the knitter must bring the cam assembly forward by means of the handle 19 and hook latch 20 over the projection of lever 21, thus reducing the movement of the release mechanism.

Illustrations courtesy of Textile Machine Works

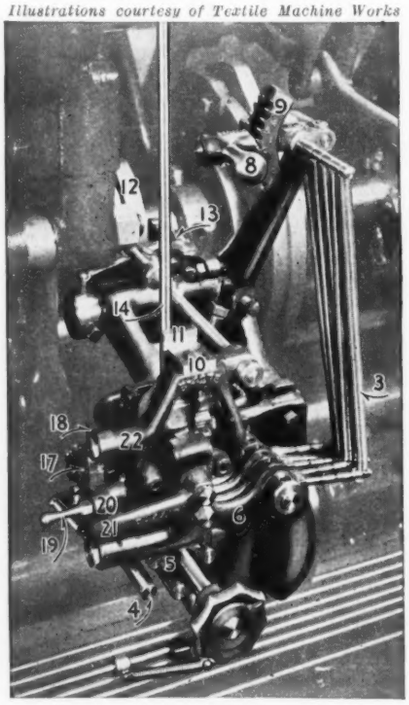


Fig. F48. Automatic draw-off motion showing fabric tension release.

CIRCULAR MACHINES—Chapter XVI (Cont.) Wrap and Reverse Plating Patterning

By JULIAN W. HUGHES

WRAP STRIPING AND REVERSE PLATING. As stated before, the Banner wrap machine, in addition to design effects by wrap striping, may also be set up to reverse plate by manipulating the sinkers through a connection to a pattern drum located adjacent to the sinker cap. Naturally many refinements

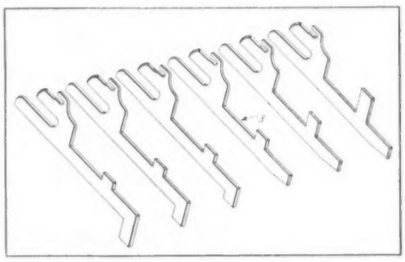


Fig. C42. Group of sinkers for producing diamond-shaped figures between wrap stripes by reverse plating.

and attachments have been added to the plating mechanism of this machine since its inception, but the principle remains the same. For the sake of simplicity, however, the original illustrations will be referred to for getting a general idea of how this is done.

A group of sinkers for producing diamond-shaped figures between the wrap stripes by reverse plating is shown in Fig. C42. Sinker 3 is always used for normal plating; all the others are used for reverse plating. When any of the appropriate sinker cams contact the butts of these sinkers they are forced farther inward, which results in reverse plating. Sinkers are acted upon selectively according to the call of the pattern drum through lever connections; the selection depending on the length and location of the sinker butts.

SECTIONS OF THREE NEEDLES *a*, *b*, and *c*, which have been elevated to receive the wrap yarn represented by *C*, are shown in Fig. C43. The undyed yarn *A*, and colored yarn *B*, together with the wrap yarn are shown on needle *a*, ready to be cast off the hook; at *b*, the loop composed of the three yarns is about to be cast off; and the needle *c*, shows the loop cast off and safely under the sinker. It will be observed that the two colored yarns *B* and *C* will now appear on the outside of the fabric, while the undyed yarn *A*, will be visible only on the inside of the fabric.

The three stages of normal plating and reverse plating, respectively, in Figs. C44 and C45. At the needles *d*, *d*, *d*, in Fig. C44 the loop just formed has undyed yarn *A* below, or encircling, colored yarn *B*, so when the loop has been cast off, the undyed yarn appears on the outside of the sock. In the Fig. C45, by the manipulation of selected sinkers the positions of the two plating yarns are reversed; consequently, when the loop is cast off and takes its place with the other loops, the colored yarn shows up on the outside of the sock.

Besides correct timing and setting of the wrap fingers to the needles, a true wrap stripe depends on the tension, the count, and—to a greater extent—the nature of the wrap yarn. Clean plating depends on the correct in-and-out movement of the sinkers relative to the up-

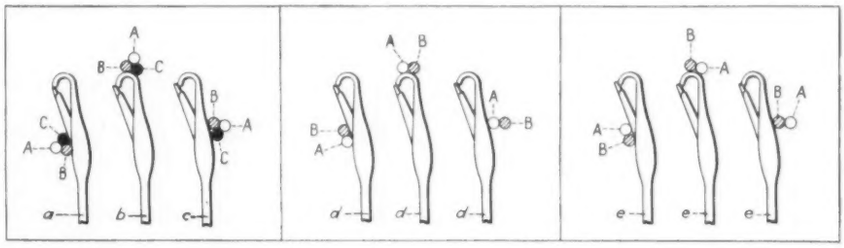


Fig. C43. Needles elevated to receive wrap yarn. Fig. C44. Position for normal plating. Fig. C45. Position for reverse plating.

and-down movement of the needles, the proper amount of tension on the inside and outside yarns, and the nature and condition of the plating yarns.

Wrap yarns should be run with as little tension as possible, and the tension must be uniform throughout the operation with no drag on the yarn at any one time. If there is too much tension on the yarn, it does not show up plainly on the face of the finished article; and if the wrap yarn catches on the nose of the bobbin, or on a burr in the tension disks on its way to the needles, even for a fraction of a second, the wrap stripe presents a ragged appearance. It is important, therefore, that these details be given close attention.

IF A WRAP YARN IS TOO HEAVY or coarse for the gage of the machine, it has much the same effect as too much tension on it, and the stitches along the course between the wrap stripes are likely to be distorted. This makes the dyed and finished hosiery very unsatisfactory. For 220- to 240-needle machines with the usual 3½-in. diameter cylinder, a 30/2s spun silk, or a 300-den. rayon is the most satisfactory for wrap yarn.

Correct tension of various yarns used for wrap stripes can be determined only by judgment born of experience. Tensions and settings for mercerized cotton may not work when thrown silk is used, and rayon may not work well under conditions favorable for mercerized cotton or silk yarns. Perhaps the most difficult yarn to run on the wrap head is acetate rayon; it must be carefully conditioned to make it pliable and to eliminate static electricity.

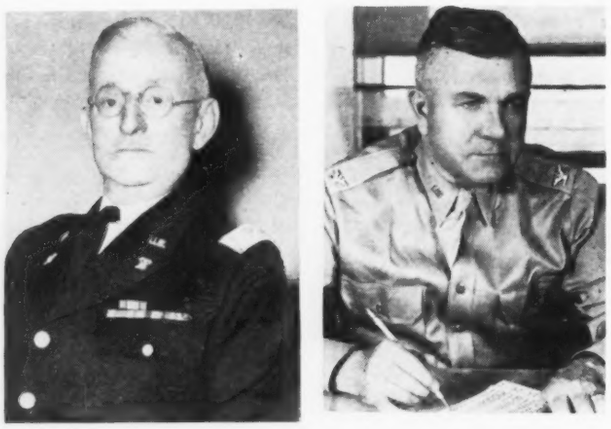
The relative position of the sinker to the needle was taken up in a previous chapter (December, 1940) and need not be repeated here.

Referring again to Fig. C45, it will be noticed that the loops of yarns *A* and *B* are ready to be cast off on the first needle at the left. To make colored yarn *B* appear on the outside of the fabric when cast off (reverse plating), considerable tension must be put on yarn *A*, and little—very little—tension must be put on yarn *B* so the former will form a loop small enough for the colored yarn to encircle snugly. The needle at the right represents the completion of the stitch, the loop cast off to the knitted tube on the inside of the cylinder, and the colored yarn *B* appearing on the outside completely hiding the undyed yarn *A*.

Highly twisted yarns give trouble when used as plating yarns owing to their tendency to creep. When such yarns are used for plating they should be properly conditioned to set the twist, or the two yarns should be balanced with opposite twists of the same turns per inch.

NEWS OF THE MONTH

Tribute to General McCain



Brig. Gen. William A. McCain (left), commanding the Philadelphia QM Depot since 1934 retired on June 30 after more than 40 years in military service. He is succeeded in command of the depot by Col. Robert C. Brady (right), his executive officer.

The following glowing tribute to General McCain, who recently retired as head of the Philadelphia Quartermaster Depot, was paid by Roy A. Cheney, president of the Underwear Institute, in the bulletin of that organization:

"General McCain has been retired.

"He takes with him to his pleasant farm in the smiling Pennsylvania country the love and devotion of all who know him, soldier and civilian alike.

"No one ever writes citations for quartermasters, but General McCain needs none. No greater medal can be struck for him than the Philadelphia Depot, the devotion of his officers, men and employes, and the fact that in clothing our Army in time of war, he never came too late or with too little. We in industry have long recognized, more than a whole constellation of stars on his shoulder strap could show, his great genius for leadership and his brains and ability to translate that leadership into greater service for the United States—and always for the United States alone. In returning this Cincinnatus to the plow, the people of the United States have lost a real executive and administrator, a soldier and a gentleman.

"This is a tribute and not a demittet. For, let it be remembered, that a cavalryman never dies—he rides on forever, over the rim and into the sunset, where there is always good water and no machine guns."

Washington Notes

Because the supply of long staple cotton from Egypt has been shut off, the President issued an order eliminating quotas from other countries, and WPB restricted stocks to specific uses. . . . Allocations and Appeals Section of WPB Textile Branch decided to give hosiery mills their full quota of rayon yarn even though they may have scrapped some of their machines. Rules require mills to report scrapping so their quotas could be cut, and some kept idle machines in their plants. . . . Elimination of the bi-swing back in all future procurement of Army service coats will save one-eighth yard of wool fabric on each. . . . Army is shortening its supply lines by buying clothing, equipment and general supplies from those of the United Nations in which its men are stationed. Clothing for our soldiers is now being made in Australia, together with blankets, flags, mosquito bars, rope, etc. Similar purchases are said to be under way in England. . . . Manufacturers of combed cotton yarns have been given until Nov. 2 before it is necessary to earmark large parts of their production for Government use under Amendment No. 1 to Order M-155. The original order began the earmarking on June 29.

67% on War Work

Sixty-seven percent of the record-breaking volume of unfilled orders held by cotton-textile mills represent contracts connected with the war efforts since they bear priority ratings of A-10 and better, Dr. C. T. Murchison, president of the Cotton-Textile Institute, told the Cotton Research Congress at its annual meeting in Dallas, July 9.

Campaign for Cotton as Cold Weather Fashion

A nationwide campaign to broaden the acceptance of cotton as a fall and winter fashion has been launched by the Cotton-Textile Institute and the National Cotton Council. Designers and manufacturers are being encouraged to include more cottons in their new collections and have obliged by evolving novel uses of cottons. Pattern companies were asked to tie in. A survey of the garment market was made and a report and bulletin sent to resident buyers and merchandise managers of stores throughout the country. Finally, consumer information on cotton will be given in newspapers and by radio commentators in time to fit in with back-to-school purchasing.

"Wartime scarcity of other fibers now and the desirability of broadening our cotton market after the war, made it timely and important that we start immediately to break down the tradition that cotton is just a summer fashion," said Virginia Jewel, fashion director of the Institute and the Council, who is managing the campaign. "Admiral Byrd found a closely woven cotton treated with a water-repellent finish the greatest protection possible from icy winds and cold. Professional skiers from Norway and Sweden also learned this from experience, and American sportsmen are following their example by wearing sportswear of water-repellent poplin, cotton gabardine and twill. Since the entrance of this country into the war, the Army and Navy have ordered similar cotton suits for our Alaskan troops." Miss Jewel also spoke a good word for corduroy and velveteen for winter wear.

Narrow Fabrics Group Meets

Problems growing out of the conversion of the great bulk of the industry's output to war purposes were discussed at the annual meeting of the Narrow Fabrics Group of the Cotton-Textile Institute. A large part of the production of tape mills is now being used in the manufacture of mosquito tents and head nets, and record breaking quantities of webbing are being bought by the armed services for use in hundreds of war items.

S. D. Estes of the War Production Board answered questions concerning procedure to be followed in obtaining supplies for repair and maintenance of machinery engaged on

war contracts and also on the application of the new symbol system. There was also discussion of price ceilings and the GMPR. John Fite, of Krout & Fite, Inc., Philadelphia, presided.

Carded Yarn Group Re-elects

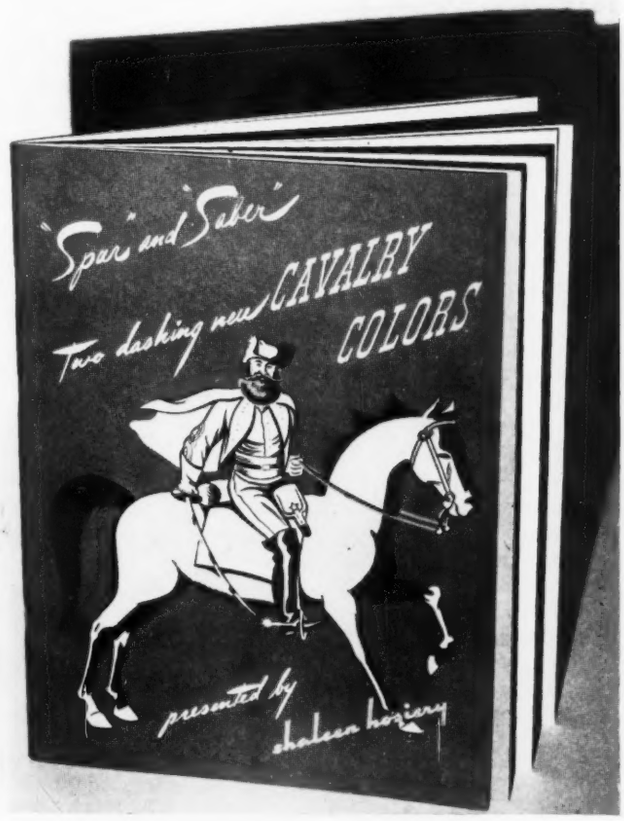
The officers of the Carded Yarn Group were re-elected at the annual meeting in Charlotte, N. C., July 28. These include J. A. Moore, treasurer of Edenton (N. C.) Cotton Mills, chairman; R. C. Forrest, of Uniontown (Ala.) plant of California Cotton Mills Co., vice-chairman; and E. O. Fitzsimons, of Charlotte, secretary and treasurer. The meeting was devoted largely to a discussion of the production demands placed upon carded yarn spinners by the war effort.

Southern Purchasing Agents Meet

The Carolinas-Virginia Purchasing Agents' Association held its mid-summer meeting in Greensboro, N. C., July 31 and Aug. 1. Speakers included Herman Cone, president of the Proximity Mfg. Co. and of the American Cotton Manufacturers Association, and Roy C. Haberkern, president of the National Association of Purchasing Agents.

WPB Machinery Branch Dissolved

The Special Industrial Machinery Branch of WPB has been dissolved and the work of the branch assigned to other WPB branches with which its operation has been tied in closely in the past. It is believed that more efficient admin-



SHANNON HOSIERY MILLS, Columbus, Ga., presents two new colors for fall and winter of 1942 in the attractive brochure pictured above. The colors are Spur and Saber, dramatized in the dashing figure of General Jeb Stuart on the cover as shown which is also the counter card supplied to distributors of Shaleen hosiery. Spur is a warm, blond, skintone; Saber is a clear copper shade with a rust undertone.

CLINTON

STARCHES

FOR ALL
TEXTILE PURPOSES

QUALITY
AND
SERVICE

CLINTON
COMPANY

CLINTON — — IOWA

The Sponsors of Fibber McGee and Molly make good paint, too!

JOHNSON'S

Wax-Fortified

MILL WHITE GLOSS

Made by the makers of Johnson's Wax

3 outstanding advantages for textile mills!

New performance standards are here for Mill White Gloss! They're made possible by a remarkable achievement in paint formulation . . . the impregnation of paint with genuine wax. In Johnson's Wax-Fortified Mill White Gloss textile mills are offered a truly modern paint. It dries to a wax-smooth surface that repels dirt and lint . . . resists mildew . . . maintains its light-reflective values. These qualities are especially advantageous now when both manpower and materials must be conserved. Write today for new descriptive booklet.

S. C. JOHNSON & SON, Inc.

Industrial Maintenance Division

Dept. TW-82 **Racine, Wisconsin**

A POSTER distributed by Allis-Chalmers Mfg. Co. to safeguard the sleep of its night-shift workers during the day. When placed in the window, the poster will serve as a warning to be quiet in the neighborhood so that the war workers may get adequate rest. The design is copyrighted.

istration can be achieved if this work is delegated to the branches most concerned with it. Under the new arrangement, the work of the Textile and Shoe Machinery Section of the branch has been transferred to the Textile, Clothing and Leather Branch of WPB. Order P-53, relating to priority assistance for manufacturers of textile machinery, will be administered by the Textile Branch under R. S. Dempsey.

Discuss Wartime Industrial Relations

Both the executives' conference at the Battery Park Hotel in Asheville, N. C., on July 16, and the General Conference at Blue Ridge, July 17 and 18, held under the auspices of the Southern Conference on Human Relations in Industry, were given over to wartime problems of industrial relations. The meetings were exceptionally well attended; the discussions were timely and inspirational.

The executives' session on Thursday was concentrated on three discussions of wartime problems: That of the War Labor Board, by Robert F. Black, alternate member for industry of WLB, and president, White Motor Co.; that of personnel, by Lawrence Appley, vice president, Vick Chemical Co., and consultant to Secretary of War Stimson on civilian personnel; that of management morale in industry, by Roy W. Moore, president, Canada Dry Ginger Ale Co.

The session was presided over by Reuben Robertson of Champion Paper & Fiber Co., and the forum following each address was led by William Conover, assistant director of Training Within Industry, War Manpower Commission. The themes of these three discussions were carried over to the general conference which dissolved into group conferences on labor supply, training workers, selection and placement tests, job analysis and evaluation, women in war industries, wartime compensations.

This was the 27th annual conference on Human Relations in Industry and probably the most important one ever held. It was under the direction of E. G. Wilson of Atlanta, for many years executive secretary of the organization.

Industrial Fiber Society Meeting Cancelled

The meeting of the Industrial Fiber Society planned for New Orleans in November has been cancelled because of transportation difficulties and inadvisability of taking time off from war production. There will be no further meeting of the society for the duration.

Booklets in the Conservation Mood

"Your Woolens—Their Wear and Care" is the title of an informative and useful booklet issued by American Wool Council, New York, containing instructions for the conservation of woolens, including clothing, household equipment, etc.

"Sheets and Blankets—How to Buy and Conserve Them" has been prepared by Pepperell Mfg. Co., Boston. In connection with buying sheets, emphasis is placed on Pepperell Buy-Guides, while in the care of sheets information is given concerning how to wash them, how to iron them, what makes sheets wear out, and what you can do about it.

"How to Take Care of Your Rugs and Carpets," published by the Institute of Carpet Manufacturers of America, has gone into its third edition. A total of 385,000 copies were distributed in the first two editions. The new edition will be 100,000 copies.

Plan Uniform Labor Regulations under Two Acts

Action taken by Secretary of Labor Frances Perkins and L. Metcalfe Walling, Administrator of the Wage & Hour and Public Contracts Divisions, has brought one step nearer the goal of having the same minimum wage and the same set of learner and handicapped regulations under both the Fair Labor Standards Act and the Public Contracts Act. Previously, there have been different wage rates and different learner regulations, under these two acts, for what is actually the same industry.

The Wage-Hour Administrator may issue certificates under the Public Contracts Act at appropriate rates of pay for handicapped workers not subject to the Fair Labor Standards Act or subject to different minimum rates of pay under both Acts.

William B. Grogan has recently been appointed Deputy Administrator of the Wage & Hour Division of the Department of Labor.

Outfitting the WAACs

The Army has established an initial clothing allowance of $184.91 for the members of the Women's Army Auxiliary Corps, with a maintenance allowance of $70.77. The outfitting includes such items as jackets, skirts, shirtwaists, utility coats, raincoats, hats, stockings, shoes, slips, brassieres, girdles, panties, also a bathrobe and pajamas, light for summer and heavy for winter wear. In addition there is an

NEW COTTON "STRAWS" are presented by outstanding manufacturers. Here is an all-cotton mesh weave hat—cool, smart and serviceable—with navy and white print rayon crepe band.

DEVOE
WALLUSTRE
PAINTS

HELP "KEEP 'EM SEEING"—
step-up production

Science has proved that properly painted walls and ceilings can improve seeing conditions—often as much as 62%—and alert, progressive management knows that better seeing conditions mean more production, better work.

From Devoe's famous research laboratories has come the new Extra-Hiding High Gloss Wallustre to help increase the light available in your plant—daylight or artificial . . . and to afford the protection against deterioration that only paint can insure.

Your first trial will convince you that Wallustre Extra-Hiding really has these eight outstanding advantages:

1. Amazing initial whiteness
2. Stays white longer
3. One-coat hides black
4. Modern synthetic vehicle
5. Tough — long lasting
6. Brushes smoothly—easy to apply
7. Ideal for spray application
8. Economical—high spreading rate

If conditions in your plant indicate a paint with high resistance to moisture, fungi or fumes, your Devoe Maintenance Representative can help you select the specialized type you need.

Write today for descriptive pamphlet WL-14 on Devoe Wallustre Maintenance Paints.

● *By improving sight with paint you help the National Safety Council's drive to reduce accidents and conserve America's vital manpower for war production.*

DEVOE & RAYNOLDS CO., INC.
The 188th year of the oldest paint-maker in America
FIRST AVENUE AT 44th STREET, NEW YORK, N. Y.

ON TIME AGAIN . . .
OVER TOKYO AND BERLIN

Not in a frenzied joy in destruction, nor an unholy lust for blood; but in the solemn and angry conviction that by the cleansing of two areas of the world's surface, and all they stand for and all the thoughts that breed there, we can build a better world; in this spirit must our nation's will, and the sinews of our industrial strength, and the striking power of our fighting arm be directed to our task. Together we must labor toward this goal . . . for from those bomb bays fall the seeds of peace.

In industrial warfare, water is a weapon. If there are any problems concerning its proper treament in your plant, Graver engineers, with years of experience behind them, are at your disposal — without obligation.

GRAVER

WATER SOFTENERS CLARIFIERS FILTRATION SYSTEMS
SEWAGE EQUIPMENT VAPOR CONSERVATION SYSTEMS
STEEL STORAGE TANKS WELDED CONSTRUCTION STRESS RELIEVING
X-RAYING FABRICATED STEEL AND NON-CORROSIVE PLATE

GRAVER TANK & MFG. CO., INC.

4809-22 TOD AVE.
EAST CHICAGO, IND.
CABLE ADDRESS — GRATANK

NEW YORK
CATASAUQUA, PA.

CHICAGO
TULSA

42-36-W

A DIM-OUT SHEER CURTAIN has been developed by Celanese Corp. of America. This black sheer fabric, hung tightly across the inside of windows, eliminates 75% of the spilled light and yet does not interfere with vision. Note radiation on sidewalk from unprotected window at left and lack of it from window at right which is equipped; yet contents of windows are equally observable.

outfit of work clothing, including one-piece coveralls, aprons, special caps for cooks and laundresses, two-piece exercise suits, sweaters, scarfs and handkerchiefs. There is also a selection of gloves for dress, service and work. The prevailing color for the WAAC outfits is the olive drab. Color for women's hosiery is a warm tone called "Victorious" by the Textile Color Card Association. The cotton anklets will be a rose gold from the association's standard color card.

QM Bidder's Reference Book

Good news for Quartermaster Corps contractors is contained in the War Department announcement that the forms upon which bids are to be submitted from now on will be greatly simplified in the future by using the new "Bidder's Reference Book" recently completed by the legal staff under Gen. C. L. Corbin, Director of Procurement Service, Office of the QM. This small pamphlet, first of its kind issued by one of the Armed Services, is a compilation of all the standard instructions to bidders which govern the manner of submitting bids on any kind of purchase. It contains all contract provisions in their latest revised forms, used in preparing a contract for the purchase of any QM item. The books will be issued to all bidders on the bidder's list for their future reference.

Western Outerwear Men Reelect

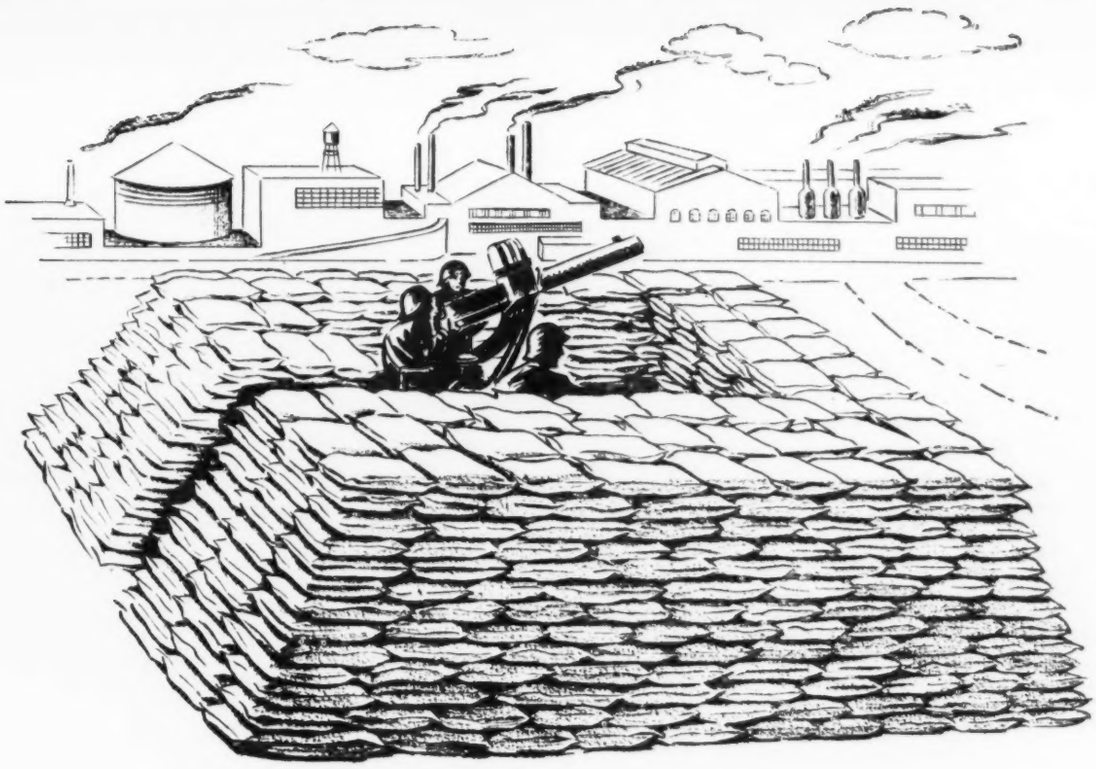
The Knitted Outerwear Manufacturers Association, Western District, at its semi-annual meeting July 14 at Brynwood Country Club, Milwaukee, re-elected its national directors and alternates from the district as follows: Sam Straus, Straus Knitting Co., St. Paul; Armin Rosenberg, Reliable Knitting Co., Milwaukee, and Sam Weiner, Mode Knitting Mills, Chicago, directors, and H. H. Newberger, Royal Knitting Mills, and Edward Kemper, Kemper Knitting Mills,

TEXTILE CALENDAR

Southern Garment Manufacturers Association, annual convention, Atlanta-Biltmore Hotel, Atlanta, Ga., Aug. 23 to 26, 1942.

National Chemical Exposition, Stevens Hotel, Chicago, Ill., Nov. 17 to 22, 1942.

National Exposition of Power & Mechanical Engineering, 15th annual show, Grand Central Palace, New York, Nov. 30 to Dec. 5, 1942.



First Call! . . . Eight Million Sandbags

Calling all mills! . . .

Eight million sandbags for field fortifications is only the beginning.

To meet minimum military and agricultural demands for sandbags, camouflage cloth, food and agricultural bagging calls for every yard of cotton bagging that the Textile Industry can produce.

You, the mills, have a tremendous responsibility to make sure that your mechanical equipment is adequate to meet and even exceed war production goals.

To get every last yard out of your present equipment . . . to locate and *break* every last one of the annoying bottlenecks calls for unceasing watch over every machine in the Wet End of Textile Finishing.

The Butterworth Organization is ready to work with you . . . help you to improve, repair and replace obsolete equipment to the utmost of our ability.

All of our facilities not required for Ordnance production are available for building Finishing Equipment. Deliveries on appropriate priorities to mills serving the war effort.

***64%**

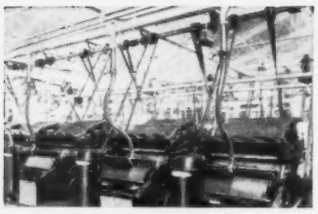
of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

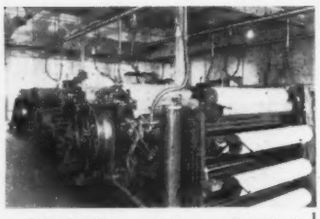
H. W. BUTTERWORTH & SONS CO.
Phila., Pa. Serving the Textile Industry since 1820
Offices in Providence, R. I. and Charlotte, N.C.
In Canada: W. J. Westaway Co., Hamilton, Ont.

Butterworth

PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY



554 cotton cards automatically stripped by Abington Vacuum System



Abington Vacuum stripper on 3-card set in a prominent woolen mill

ABINGTON VACUUM CARD STRIPPING & WASTE COLLECTING

√ saves **TIME**

√ conserves **MAN-POWER**

Among the numerous benefits are:

Stripping cotton card cylinder and doffer automatically by vacuum.

INCREASED PRODUCTION

With the Abington system, one man strips 675 cotton cards once per 8-hr. shift. Less card down time increases production at least 4% on cotton, while on wool the increase often equals an extra set of cards.

Collecting card underscreenings.

IMPROVED QUALITY

Elimination of brushes assures maximum effectiveness of fibre separation by keeping wire faces sharper and wire bends truer. Ease and speed of operation often permit an extra stripping per shift as added Product-quality Insurance.

Waste Station used to collect flat strips, comber noil and other process waste.

MAXIMUM CLEANLINESS

Vacuum stripping and process waste collecting makes an easy task out of "the dirtiest job in the mill". Protects operators against inhaling clouds of brushed-up dirt and fly. Takes the back-breaking grind out of cleaning under machinery. Removes process waste to a central waste house without trucking through the aisles. Promotes clean floors and clean machinery in various departments where conveying is used, enhancing cleanliness of product.

Floor sweeping by vacuum doesn't just move, but really REMOVES the dirt and fly.

Used in some 700 mills both cotton and wool

Send for illustrated Stripper Bulletin

ABINGTON

ABINGTON TEXTILE MCHY. WKS., ABINGTON, MASS.

Card Strippers — Yarn Dyeing Systems — Weaver's Knotters

OFFICES AT BOSTON, MASS. • CHARLOTTE, N. C.

both of Chicago, and Max Karger, Eagle Knitting Mills, Milwaukee, alternates. A golf tournament was held in the afternoon before the meeting, with Mr. Kemper serving as chairman.

Garment Manufacturers Get Support of Atlanta Textile Club

President Harry McGinty of the Atlanta Textile Club was instructed at the July meeting of the Club to write to L. H. Jones, chairman of committee on conventions of the Southern Garment Manufacturers Association, pledging full cooperation and support of the club at the annual meeting of the association which will be held in Atlanta on Aug. 24, 25 and 26. Programs of the Atlanta club for the rest of the year will be under the direction of Alan Clow of A. M. Tenney Associates and W. M. Babcock will continue as chairman of the entertainment committee.

Aralac Fabrics Featured in Fashion Show

Interlinings made entirely of Aralac, the protein fiber produced from casein by Aralac, Inc., were introduced at a fashion show held last month in New York. Snow suits, coats, house coats, and sports jackets interlined with Aralac were shown. It was announced that Aralac will soon make its appearance in dress and coat fabrics.

Urge Purchase of F and G Bonds

A recommendation that all business firms fund their reserves to the extent of 10% of net current assets by the purchase of Series "F" and "G" War Bonds was made by Harry J. Delaney, vice-president of Meinhard, Greef & Co., Inc., upon taking office for his second full term as president of the New York Credit Men's Association. Mr. Delaney is working in close collaboration with John P. Stevens Jr., of J. P. Stevens & Co., Inc., co-chairman of the New York County Bond Drive Committee.

NEW EQUIPMENT for experimental production of woolen type yarns and fabrics from rayon staple fiber blended with wool and other fibers has been installed by American Viscose Corp. at its Textile Unit at Marcus Hook, Pa. Spinning frames are shown above. The equipment, which is of the standard type, will be used exclusively for experimental work to test rayon products, to improve methods of manufacture, and to develop new woolen-type fabrics. Many rayon and wool fabrics of this type are already well-established in the markets for women's wear and men's wear, including such fabrics as flannels, tweeds, cheviots, and shetlands.

POWER TO WIN depends on power to produce. For development of full designed productive capacity from *TEXTILE MACHINERY* use . . .

. . . SINCLAIR LILY WHITE OILS. These oils keep spindle speeds up power loss and temperature down. Sinclair lubricants include *Knitting Machinery* Oils.

Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE NEAREST SINCLAIR OFFICE

SINCLAIR REFINING COMPANY (Inc.)

2540 West Cermak Road, Chicago • 10 West 51st Street, New York City • Rialto Bldg., Kansas City • 573 West Peachtree Street, Atlanta • Fair Building, Ft. Worth

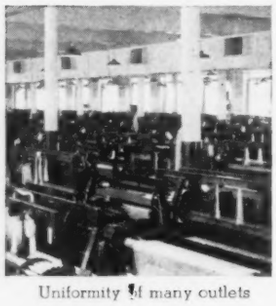
VITAL HELP
for old Spinning Rooms and Weave Rooms
with the help of
Certified Climate

Air enters through mixing chamber

Regain higher and more dependable. Greater strength and more uniformity in numbers.

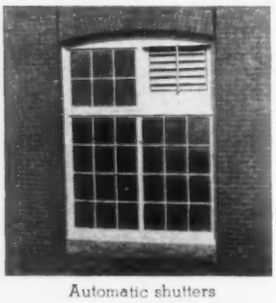
Propelled through ducts, graduated

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.



Uniformity of many outlets

Fewer Ends Down. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.



Automatic shutters let heat out

Better Product from shorter, less expensive staple. And very often 2% to 3% more production.

Certified **CLIMATE** with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

This and That

Members of the loom fixers union of the American Federation of Textile Operatives have voted to affiliate with the American Federation of Labor. The executive board of the slasher tenters and knot tiers union and of the weavers union have also voted to affiliate with A. F. of L., and, if and when this is ratified by the membership of the last two groups, the A.F.T.O. will cease to exist in Fall River.

New Bedford Textile School has received a special appropriation of $20,000 to modernize its chemistry department.

The second national chemical exposition will take place from Nov. 24 to 29 at the Sherman Hotel in Chicago, which is a change in time and place from the first announcement.

Federal Trade Commission on July 14 issued a reminder that perforations or other devices to facilitate the removal of the label tag placed upon wool product is not sanctioned or approved, and that wilful removal or mutilation of the label is not only a deceptive act under the Federal Trade Commission Act but is punishable as a misdemeanor under the Wool Labeling Act.

A new union contract to replace the one which expires Sept. 30 has been presented to dyeing, printing and finishing companies in the Paterson, N. J., area. The new contract differs little from the present one, with the exception that it calls for a voluntary check-off system. It has already been ratified by locals of the Federation of Dyers, Finishers, Printers, and Bleachers of America.

Enka, N. C., was visited by royalty for the first time when Princess Juliana of the Netherlands and her party were escorted through the plant by A. J. L. Moritz, vice-president of the company, and other officials. Princess Juliana was guest of the corporation at a reception given at the Biltmore Forest Country Club near Asheville.

Sericulture may be established in British Columbia. Cecil Ffrench has hatched a number of silk worms in Victoria from eggs obtained from Washington, D. C., and from England, where silk is being woven from the product of worms cultivated there. There are already a large number of mulberry trees at Victoria.

"Life Insurance for Your Wool Worsteds," a new booklet published as a contribution to the Government's wool conservation program, at the same time gives advice to consumers by describing ways to make today's wool garments last longer. Issued by Arlington Mills, the book describes the steps in caring for all kinds of garments "to conserve the life, prolong the usefulness and preserve the beauty of Naphthalated wool worsted fabrics and the garments in which they are used." Both woven and knitted wool fabrics of all types are discussed.

Silver Bay Industrial Conference held its 25th anniversary meeting at Silver Bay on Lake George, July 22 to 25. W. W. Stewart, treasurer of Southeastern Cottons, Inc., New York, was the chairman. Other textile representatives who were present and spoke included: Alfred Hofmann, first vice-president of the A. F. of L.; R. C. Oberdan, director of training at Calco Chemical Co., Bound Brook, N. J.; Glenn L. Gardiner, assistant to the president of the Forstmann Woolen Co., Passaic, N. J., and Gale Purdy, vice-president of the J. B. Stetson Co., Philadelphia.

A yucca processing plant will be erected near Kingman, Ariz., for the General Fiber Products Corp. of Los Angeles. The plant will be used to extract fiber from yucca leaves for the manufacture of rope and other products. It is the first of four plants projected by the company. Construction will be financed by Defense Plant Corporation.

The Rhode Island School of Design will in the future award a Bachelor of Fine Arts Degree in addition to the Bachelor of Science Degree which has been given in the past.

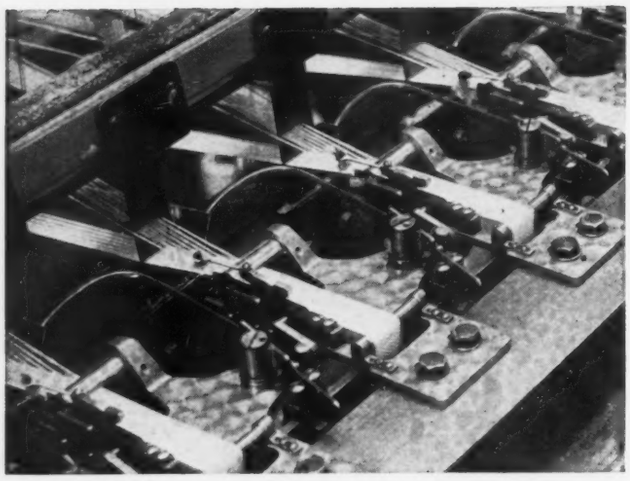
Special Scales Win on the *Production Front*

WHERE weighing or batching is required in war industries, special, ingeniously applied Fairbanks Scales speed production. In addition, through their accuracy, they often improve products or facilitate accounting.

This battery of 17 Fairbanks Hopper Scales speeds precise loading of charging cars. Automatic shut-off at any preset weight can be provided.

Let Fairbanks engineers recommend, for purchase by means of your priority, the special or standard weighing equipment which will win . . . now and in years to come . . . on *your* production front. Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago, Illinois.

FAIRBANKS-MORSE SCALES DIESELS MOTORS PUMPS



CLUTSOM HIGHSPEED WEAVING MACHINES

The Clutsom highspeed shuttleless loom gives high production in a wide range of narrow textile fabrics.

Rigid or elastic webbing, tapes, zipper tapes, venetian blind tapes, rug bindings, ribbons and hospital webs are some of the various items in regular production.

Wages have risen—operators are costly—no material should be wasted that can be saved. The Clutsom machine gives greatly increased production for the same amount of wages paid—cuts material waste to the minimum—no skilled labor required.

A demonstration machine can be seen at this address.

It is possible at present to give limited delivery of machines immediately.

CLUTSOM MACHINES INC.

250 WEST 54TH STREET NEW YORK

Telephone Circle 6-8687

FACTORY: Springdale, Connecticut

Trading Limited by Ratings and Scarcities

Cotton goods trading was up and down during the month of July as goods became available or as buyers with rated orders came into the market. In general gray goods were quiet, with many mills deliberately waiting for rated orders. In staple fine goods, converters are findng it difficult to get mills to commit themselves ahead, but mills with dobby and jacquard looms are findng it difficult to keep these machines busy. So much fine spinning is going into Government goods that the amount available for civilian uses seems likely to be small.

Wool goods selling agents report that buyers still show a marked preference for all worsteds and that blends in the field are not gaining in popularity. Reports from Washington indicate growing likelihood that the Government will buy the domestic wool clip, beginning possibly with the 1943 clip. The price of wool slipped around mid-May and reached low levels in June. It has since recovered to the mid-May level, and political considerations for purchase of the wool clip should not be quite so pressing as they were a few weeks ago. Increasing wool importations may create a storage problem which will result in larger allotments for civilian use. The situation does not seem to suggest much higher prices for wool unless they are put up artificially.

Rayon is moving into consumption with regularity from month to month and without accumulation. All the yarns alloted for exports are being absorbed by the Latin American countries. The allotment amounts to 4% of production, and it is intimated that a larger allotment may be made. Rayon weavers in some quarters are finding that, under ceiling prices and with certain wage advances, their profit marg.ns are being narrowed. Further conversion of rayon spinning machinery to high tenacity yarn for Government use is under way. It is also understood that the Army will soon be in the market for some of the rayon materials which up until now have been experimental.

Hosiery lines for fall are coming out with prices practically unchanged from the last season. Many houses have added new numbers, particularly in cotton and rayon. In the rayon group, several mills are featuring short and long proportioned numbers. Men's and children's elastic top hosiery is gradually being replaced by types with closely-knit, rubberless tops which were in vogue before the advent of rubber yarn. There is said to be little or no sales resistance to the new substitute types. Hosiery shipments for last May in total were only 2.1% under May 1941.

Underwear trade has been irregular with broadening interest from the civilian trade but no real evidence of scarcity despite the great quantities that have gone into army and navy use. Mills are finding it difficult to get all the yarns they need. The Underwear Institute has set up a yarn exchange to bring buyers and sellers of yarn together.

Outerwear for fall is moving irregularly. Retailers are loath to build up stocks because of uncertainty as to what may be done in the matter of inventory control. Some styled lines and merchandise needed for back-to-school promotion have found ready place for their goods. Staple lines seem to have the best fall both in men's and women's wear. Novelty sweaters of blended yarns are making their showing but are taking hold rather slowly.

Export Inquiries

Robert Thom, Ltd., of Barbados, desires to buy all kinds of textiles including especially rayons and printed goods from mills.

American Trading Co. of Mexico City, desires merchandise of all types and raw materials.

TEXTILE WORLD will be glad to forward letters from any reader to either or both of the above concerns.

☆ MOSQUITO NETTING PROCESSED WITH . .

MARQUISETTE • TRICOT • BOBINETTE • LACE

PERMALON

A HARTEX PRODUCT

PATENT APPLIED FOR

meets Government specifications

Millions of yards of mosquito netting, finished with PERMALON, are already in use by our armed forces. Millions of additional yards will be needed. If you are manufacturing mosquito netting or have the plant facilities to do so, PERMALON (tested and approved by Government supply departments) will help you to get your share of this business.

A PERMANENT CELLULOSE FINISH

PERMALON is a multiple-action agent which does a complete job quickly, easily and economically.

Among its advantages are included:

VERY LOW SHRINKAGE—Well below government requirements
EVEN PENETRATION—Produces a clean, smooth surface
ELIMINATES SLIPPAGE—Permanent adhesion of warp and filling yarns
SPREADS EVENLY WITH PIGMENT COLORS—Uniform, clear shades
ECONOMICAL—Low cost helps meet government price standards
QUICK DELIVERY—Ample stocks on hand to meet all requirements.

Celludye **PIGMENT COLOR CONCENTRATE FOR USE WITH PERMALON**

These colors are noted for their fastness, quick penetration and high pigment value. Their use eliminates completely the need for any additional dye processes. We match your required shade—no color blending is necessary. Its high concentration and low price make it more economical to use than the older methods of dyeing. THE HART PRODUCTS CORPORATION is the sole selling agent for Celludye Pigment Color Concentrates. Consult our technical staff.

ARRANGE FOR A DEMONSTRATION

Many of the largest mills producing mosquito and head nettings have standardized their finishing operations with PERMALON. A member of our technical service staff will be glad to advise you in your own plant how to utilize your present equipment to the best advantage. PERMALON is available in several viscosities for many other types of knitted and woven fabrics. . . . Write for information.

HART PRODUCTS CORP.

Chemicals for Every Phase of Textile Processing

1440 BROADWAY, NEW YORK, N. Y.

The HART PRODUCTS COMPANY of CANADA, LTD. • GUELPH, ONTARIO

Precision-made Darnell Casters with the DOUBLE BALL-BEARING SWIVEL assure a long life of efficient, economical service

DARNELL CORP. LTD., 60 WALKER ST., NEW YORK, N.Y.
LONG BEACH, CALIFORNIA, 36 N. CLINTON, CHICAGO, ILL.

CASTERS

Spun Rayon Blends

Different effects by blended cotton fiber with staple rayon on cotton system

QUALITIES AND CHARACTERISTICS of cotton and rayon fibers when combined in a yarn must always be kept in mind, according to a recent release issued by Pierre Sillan, of American Viscose Corp. Mr. Sillan states that cotton has a high wet strength and gives a sensation of firm touch. Rayon has a richness of appearance either dull or bright, and possesses softness or firmness according to the denier of staple used. The two fibers can be dyed in the same shade or, if desired, two-tone effects can be obtained; they can be readily stabilized in combination construction.

Spun rayon and cotton can be combined in a fabric in four different ways.

1. Twist—Fabrics are made of two-ply yarns—one single end of cotton and one single end of spun rayon twisted together. Usually the cotton is of the same size or slightly finer than the rayon, and is used as the core—the rayon hides the cotton in such a way that the entire surface of the cloth is practically all rayon. The number of turns of ply twist varies with the counts of the yarns and is accomplished on a regular cotton twister. Hopsackings, flakes, and slub-hopsackings (also sold under the improper name of "crash linen") are made in such a way.

2. Mock Twist—Mills that do not have twisting equipment or desire to make a slightly cheaper fabric, replace the two-ply yarns with a singles having mock twist of spun viscose and cotton.

The mock twist is obtained by processing simultaneously a roving of cotton and a roving of spun rayon of the same or different count, according to the percentage of blend desired, for each spindle on a spinning frame. Generally a double trumpet controls the separate feed of each roving.

Although the cotton and rayon roving unite, they still retain their individuality and form a spiral-like effect yarn, primarily caused by the difference in color reflection of the two materials. In other words, the blending of cotton and rayon is not thorough, and even in the finished yarn these two constituents remain largely separate. This method of combining viscose rayon and cotton produces much better results than a straight blending where the fibers are so thoroughly mixed that they lose their individuality and part of their respective qualities.

3. Blends—Various types of blends are employed, depending upon the fabric effect desired. In general, the more nearly perfect the blend required, the earlier in the process must be made the blend. The methods of blending are as follows: Floor blending or pre-opening blending, picker lap blending, and drawing blending.

4. Weaving—The fourth method of combining these fibers is in the fabric using yarns made of 100% cotton and 100% rayon. A very common practice is to alternate one or more ends of cotton with one or more ends of rayon in the warp and to alternate these yarns in the same manner in the filling. End-and-end shirtings and piques are frequently woven as described above. Many gabardines are made with a spun viscose warp and a cotton filling. The larger percentage of drapery fabrics is made of spun viscose rayon and cotton combinations. Whether yarns are combined in the warp or the filling direction depends largely upon the effect desired.

Recent developments employing these yarn combinations are for diaper and towel fabrics. The rayon lends a soft luxurious touch and increases absorbancy, and the cotton stabilizes the fabric and increases its wet strength.

AFTER YOU'VE HAD a good look, stop a minute to consider this fact: Unless the material from which this bathing suit is made had been properly processed, the suit never would have had the style appeal that sold it. That's why so many leading mills, converters, finishers and dyers have turned to Colgate-Palmolive-Peet for high-quality wetting, fulling, scouring and dispersing agents.

Your local C.P.P. representative will be glad to give you complete information about the full line of Colgate-Palmolive-Peet soaps and detergents for the textile industry. Call him in; or, if you prefer, write to us direct.

INDUSTRIAL DEPARTMENT **COLGATE-PALMOLIVE-PEET CO.** JERSEY CITY, N. J.

COLGATE TKS SOAP • COLGATE KWIKSOLV • BADGER FLAKES • COLGATE FULLING SOAP • COLGATE BLENDED FULLING SOAP
COLGATE FORMULA 25 • COLGATE WHITE SOAP FLAKES • ARCTIC CRYSTAL FLAKES

KNOWN by the FRIENDS IT KEEPS

FOR many years EXSIZE has been used by a large and ever-growing list of finishing plants. We are proud of this long record of continuous service, because it proves that EXSIZE is unsurpassed for the thorough removal of starch size at low cost. Let EXSIZE help solve your problems, too.

DESIZE with EXSIZE

Our laboratory facilities and practical field men are available to help you with desizing problems.

PABST SALES COMPANY, CHICAGO, ILL.

Warehouses at New York, and Textile Warehouse Co., Greenville, S. C.

Copyright 1940, Pabst Brewing Company, Milwaukee

"The Job That Should Be Done"

A.C.M.A. booklet aims to sell cotton textile industry to the public

"THE JOB THAT SHOULD BE DONE," the public relations booklet prepared by Wm. M. McLaurine, secretary and treasurer of the American Cotton Manufacturers Association, as mentioned briefly in these columns, represents a plan on the part of the cotton textile industry to "sell itself to its people, to its community, and to the nation," according to the foreword. The booklet outlines the firm foundation which has already been laid within the industry, including improved working conditions, better living conditions, greater educational, cultural and recreational facilities, and closer community relationship.

It then traces the influence of the industry upon the economic existence of the South, pointing out that it has given employment to millions of people, supplied income necessary to improved communication, transportation, educational facilities, etc.; and stimulated the establishment of manufacturing plants and of branches for the production of things essential to the industry. In this connection Mr. McLaurine quotes the statistics given in the Public Relations Issue of TEXTILE WORLD.

The booklet then takes up specifically the three major groups to be "sold" on the industry as noted above, and outlines the nine major objectives behind the cotton textile industry program to build and maintain the respect and esteem of the public. It then gives specific information as to the various media by which the cotton textile industry can sell itself—including magazines, posters, direct mail, radio, and newspapers. Finally it gives a check list which the reader can use to find out how he and his organization stand in the matter of public relations.

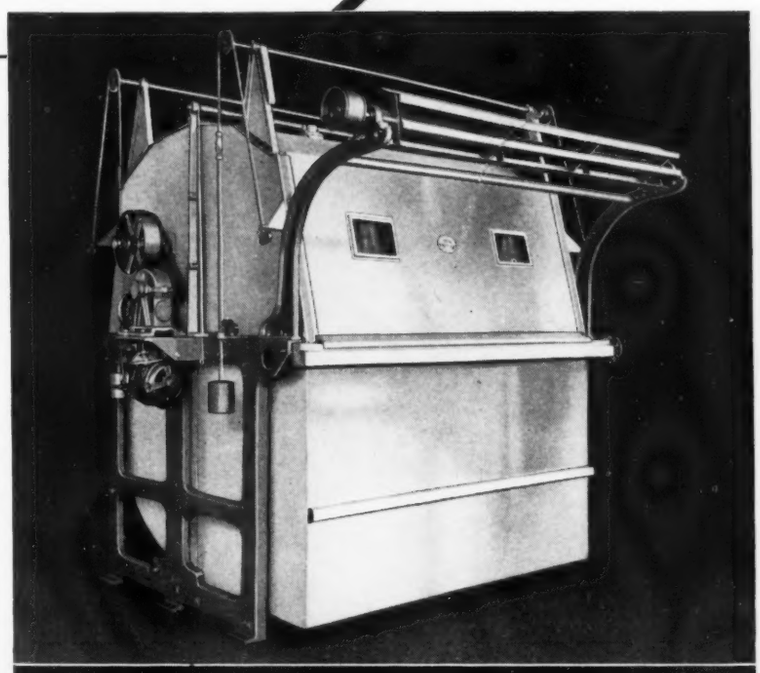
Front cover of ACMA booklet

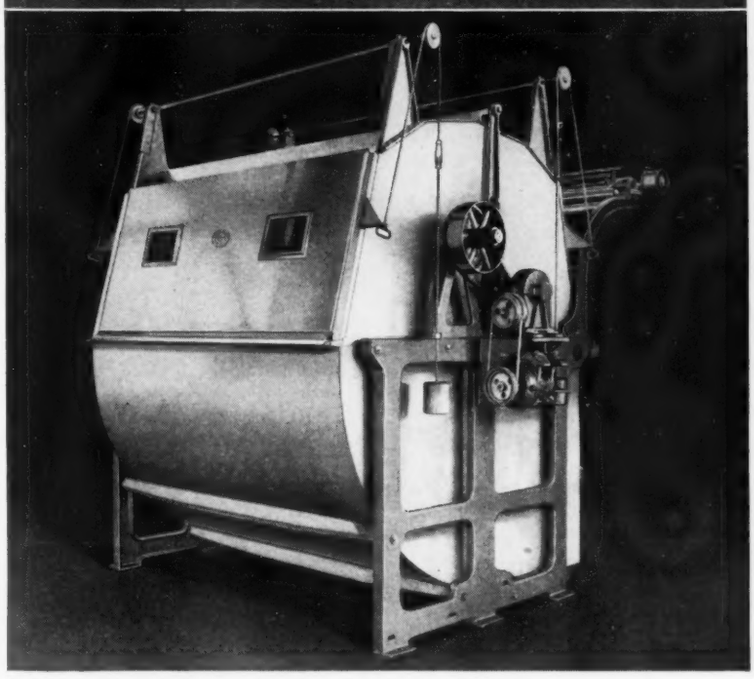
THE HUNTER MODEL NK

All Enclosed Stainless Steel Piece Dye Kettle for

MODERN DYEING AND BLEACHING

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS.





ILLUSTRATED here is the newest Hunter addition to modern dyeing and bleaching requirements. It offers the users these distinct advantages among others:

(a) Vibrationless construction: All driving and driven members supported in newly designed separate frames.

(b) Vari-speed drive for main reel for increased flexibility.

(c) A size and type for any piece dyeing or bleaching requirement.

(d) Tight top enclosure, which is windowed and lighted, saves up to 35% of steam for the dyeing cycle. Entire Kettle may be insulated if required.

(e) Proved performance on fabrics ranging from mohair plushes, woolens, worsteds, unions, blankets, to spun rayon suitings.

If you contemplate replacing or expanding your present dyehouse units, it will pay you to ask Hunter for details. Simply write or call

JAMES HUNTER MACHINE COMPANY

FOUNDED 1847 • NORTH ADAMS, MASSACHUSETTS

Western Representative: **E. G. PAULES, 343 Bendix Bldg., Los Angeles, Calif.**

60,000,000

yards of fabric were treated in the last 15 months with

Protela

MOLD-AND-MILDEW PROOFING COMPOUND

Investigate the superiority of Protela—economical, long-lasting, easy-to-apply mildew-proofing compound for all fabrics made of vegetable fiber including cotton, linen, jute, sisal, hemp, paper.

Protect Your Fabrics With PROTELA

Albi Chemical Corporation

9 PARK PLACE, NEW YORK

Cotton Wage Advances

WLB panel recommends 7½¢; labor asks 10¢; mills give 5¢ rise

UNION SPOKESMEN for 61,000 textile workers in 51 New England and 11 southern cotton-textile mills told the War Labor Board in open hearing on Aug. 5 in Washington that mediation panel recommendations for a 7½¢-an-hour wage increase are "unacceptable." The panel reported on Aug. 4 to WLB on three cases involving those mills.

Isadore Katz, general counsel of the Textile Workers Union (CIO), said at the hearing that cotton textile workers' wages are substandard. He insisted on an increase of 10¢ an hour. Mediation panel members, who heard two cases involving northern mills and one involving southern mills, reported that wages generally were substandard, and the 7½¢ increase was agreed upon by both the employer and employe members, while the single member representing the public found merely that an increase would be justified.

Charles B. Rugg, counsel for 40 New England mills, said union demands for an increase of 10¢ an hour in the North and 20¢ in the South are "way high." He told the board, however, that northern operators agree that some increase is warranted. He added that they believed the increase should be larger in the South to reduce or eliminate a differential under which southern workers now average about 10¢ an hour less than northern workers.

Mr. Rugg asserted that price ceilings on finished cotton goods should be readjusted to enable mills to pay higher wages. He suggested that any wage increase be based on wage rates prevailing on May 15, 1942.

William E. J. Batty, representing United Textile Workers (AFL), argued that North-South wage differentials are archaic and anti-social. About 385,000 of the 485,000 textile workers are employed in southern mills, he said. He urged that wages be eliminated as a competitive factor. Southern operators, he said, are enabled by lower wages to compete unfairly against northern operators.

Hearings had not been completed when this was written and a decision was not expected before Aug. 15.

A survey by the Bureau of Labor Statistics, made at request of the mediation panel, showed, in addition to some of the statistics mentioned above, the following:

1. Average hourly earnings for the entire country for the cotton goods industry in April, 1942, were 51.5¢ compared with 81.9¢ for all manufacturing.

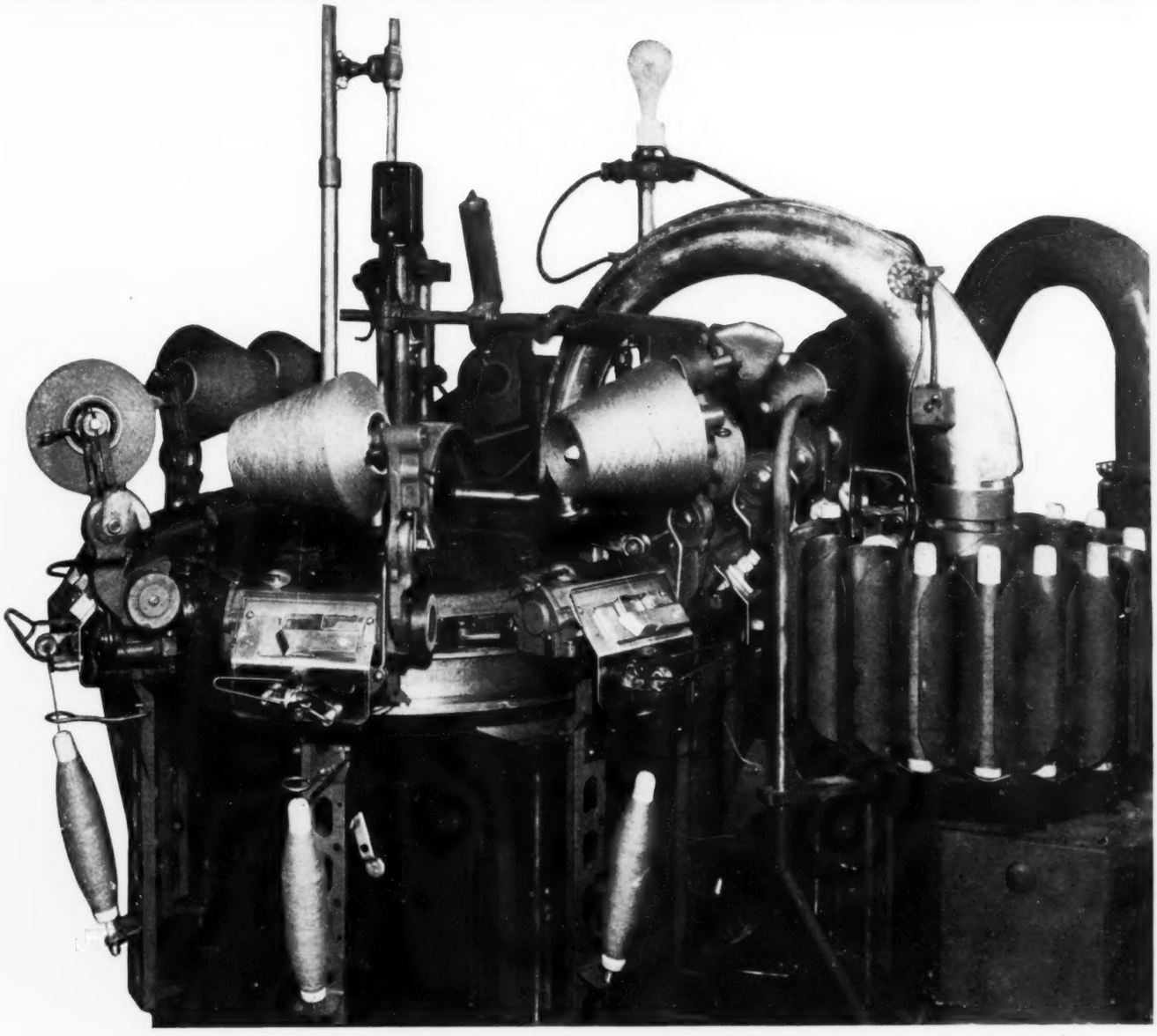
2. In February, 1942, average hourly earnings of textile workers of northern mills were 58.8¢ and for southern mills 48.7¢. The average weekly earnings in the same month were $24.46 in the North and $19.82 in the South.

3. Average hourly earnings of textile workers increased 22.9% from January, 1941, to April, 1942, compared with 18.9% increase for workers in other manufacturing industries, and 15% rise in national cost-of-living index.

Certain weaving mills in the Piedmont area of the South have already announced 10% increases. The first was Burlington Mills, effective in each of their plants. Next, was Carter Fabrics. The move quickly swept in a half circle to Shelby, N. C.; to Greenville, S. C.; to Spartanburg; to Anderson; to Great Falls.

The mills were accused by unions of anticipating the WLB decision. Mill men figured most of the increases would actually be paid by the Government in tax losses. Both labor and management overlooked the statement by OPA'er Richard Gilbert that industry's war-time profits "are not labor's to demand; nor industry's to give away in the form of swollen salaries of management, unwarranted dividends, or wages. They belong to the Government."

Wind Knitting Cones at
1/3 YOUR PRESENT COST



With the Automatic
Knitting Cone Winder

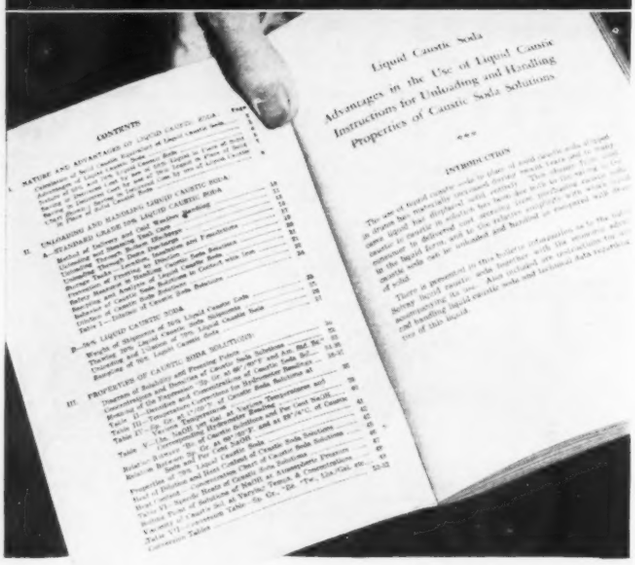
ABBOTT MACHINE COMPANY

Wilton, N. H.

Southern Representative, L. S. Ligon, Greenville, S. C.

BOOK OF THE YEAR

...To The Man Who Needs Down-to-Earth Information On Handling Caustic Soda!



If you are a technician or plant operator who is now "taking over" an assignment which necessitates a more specific knowledge of Caustic Soda than you previously required, *then write today for Solvay Technical Service Bulletin No. 6.*

This bulletin contains time-saving, factual information from which all sales talk has been eliminated. It is full of important tables, charts and other data on the handling of Caustic Soda. It is information which goes straight to the point... helps you improve efficiency, reduce man hours and increase production speed.

Solvay Technical Service Bulletin No. 6 on Liquid Caustic Soda is one of the series of Solvay Bulletins which are constantly being revised on the basis of new findings. For years this technical literature has had the recognition of plant operators, engineers and scholars who realize that such vital operations data concerning alkalies can only originate out of the breadth of accumulated experience Solvay has gained as America's oldest and largest manufacturer of alkalies.

FOR VICTORY BUY UNITED STATES DEFENSE BONDS AND STAMPS

If you don't use Caustic Soda, then send for any of the OTHER SOLVAY BULLETINS listed below, which pertain to your work.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 RECTOR STREET NEW YORK, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati
Cleveland • Detroit • New Orleans • New York
Philadelphia • Pittsburgh • St. Louis • Syracuse

Use and handling of Caustic Soda • Analysis of Alkalies • Soda Ash Handling • Alkalies and Chlorine in Water Treatment • Analysis of Liquid Chlorine and Bleach • Water Analysis • Calcium Chloride in Refrigeration Road Surface Stabilization • Analysis of Calcium Chloride and Limestone

NEWS ABOUT MEN

J. V. Moffitt, Sr., an executive of Wennonah Cotton Mills, has been elected president of Dacotah Cotton Mills, Lexington, N. C., succeeding **C. L. Chandler,** of Gaffney, S. C., who recently sold his interest in the mills. **L. M. Grimes** was elected vice-president. **John M. Moore,** who has been the operating executive of the Dacotah plant since he and his associates purchased it several years ago, will continue as secretary-treasurer.

Col. Charles F. H. Johnson, president of Botany Worsted Mills, Passaic, N. J., is one of three directors of "This Is The Army," Inc., which is producing at the Broadway Theatre, New York, the musical comedy of that name recently completed by Irving Berlin with a cast of 300 soldiers.

Frank H. Hillery, of Wellington Sears & Co., New York, was reelected president of the Textile Exporters Association on July 8. **William C. Planz,** of Neuss Hesslein & Co., was elected vice-president.

William J. Hammerslough, general partner in Lehman Bros., New York bankers, has been elected a director of the Burlington Mills Corp.

Charles A. Mace, of the Synthetic Organic Chemical Manufacturers Association, of New York, has been elected president of the local Wool Club, succeeding John P. Abbott of Providence Dyeing Bleaching & Calendering Co.

Judge Ben Allen has been elected resident vice-president of both North American Rayon Corp. and American Bemberg Corp., Elizabethton, Tenn. **Paul A. Chapman** continues as acting general plants manager.

Bradley C. Algeo, assistant dean and for 53 years an instructor and professor at Philadelphia Textile Institute, retired from active duty as of June 30. He is retiring because of the 65-year age limit but plans to re-enter some division of the industry in the near future. His post as head of the department of weave formation and fabric analysis is being taken over by **Frank L. Giest,** who has been with the school since 1913. Mr. Algeo founded the Alumni Association of the Institute in 1900 and was its first and only president continuously until his resignation in 1939.

Elmer C. Bertolet, head of the chemistry and dyeing department of Philadelphia Textile Institute, has joined the staff of the Jeffersonville (Ind.) QM Depot as textile specialist, and has been succeeded by **Percival Theel,** formerly an instructor in the same department. **Ercal Kaiser,** instructor in jacquard design and color harmony, has also joined the Jeffersonville QM Depot and is succeeded at the school by **D. R. Koenig,** formerly of Automotive Fibres Co., Detroit.

Matthew H. O'Brien, general attorney for Celanese Corp. of America, New York, has been elected vice-president. So also has **Harold Blancke,** a director and for some time treasurer, and **W. S. Landes,** associated with the plastics end of the business.

Horace G. Woodbury, manufacturing agent of Wamsutta Mills, New Bedford, Mass., has been appointed to head the combed yarn branch of War Production Board, Washington, D. C., succeeding **George E. Westberg,** who, as noted, is now chairman of the Textile Joint Committee.

Sidney H. Scheuer, who recently joined the Board of Economic Warfare with the Textile Division, has been promoted to serve as acting chief of the Procurement Branch of that agency.

Alexis Sommaripa, who has been chief of the Textile Branch of the Division of Civilian Supply since last October, has been assigned as a consultant to the Army Quartermaster on special technical work in the textile field. He continues to serve as advisor to the Division of Civilian Supply.

Caldwell Ragan, president of Ragan Spinning Co., Gastonia, N. C., has resigned his post with the combed yarn unit of WPB because of his health.

Charles Pinnell, general sales manager of Merrimack Mfg. Co., New York, is chairman of the textile executive committee for New York of the Industrial Salvage Section of WPB.

Henry T. Bibbo, president and **Edmond G. Luke,** assistant treasurer, have resigned from the Grosvenor-Dale Sales Corp., New York.

W. P. Johnson, for many years manager of Kendall Co., Paw Creek, N. C., unit, has resigned to accept an executive position at a textile plant at Inman, S. C.

Spencer Ainsworth, formerly manager of Gonzales

YESTERDAY . .

WILLIAM CRABB & CO.,

MANUFACTURERS AND IMPORTERS OF ALL KINDS OF

HACKLE, GILL, COMB, AND CARD PINS

AND

PICKER TEETH,

Needle-Pointed Card Clothing

In Wood and Leather, for Flax, Jute, Tow, &c.,

Hackles, Gills, and Wool Combs Made and Repaired,

Also, Rope-Makers' Pins, Picker Pins, Spiral Springs, Loom and Shuttle Springs, English Cast-Steel Wire, Cotton Banding, and General Mill Furnishings.

Prize Medal Awarded.

Bloomfield Ave. and Morris Canal, NEWARK, N. J.

NOV. 1, 1880

This old advertisement from the 1880 files of "The Textile Record of America" (predecessor of Textile World) told a story of Quality products. Even then, this company was 10 years old—and well known and depended upon by the leaders in the textile industry, its products standard in the trade.

Today -

Now Under New Management

J. C. BENNETT, *President*
R. N. NELSON, *Sales Mgr.*

TOM WAINMAN, *Engineer*
E. A. MORSE, *Production*

Offer their services to solve your problems

72 YEARS OF EXPERIENCE MEANS SOMETHING!

It means that you can speed your production for the war effort by making use of all the knowledge we have gained on needle-pointed specialties for the preparation of wool and other fibres. In all the field—no plant like this—no such rich fund of experience—no such quality. Your inquiries will receive emergency attention.

This MODERN PLANT is prepared to help you increase production.

We are experienced manufacturers of needle pointed goods and many specialties made to order.

JUTE and FLAX CARDS PINS
COTTON WASTE PICKER PINS
RAG or SHODDY PICKER TEETH
MIXING PICKER TEETH and PINS
WASTE MACHINE PINS
DOFFER TEETH
CORDAGE PINS
TENTER PINS
FALLER BAR PINS
JENNY BAR PINS

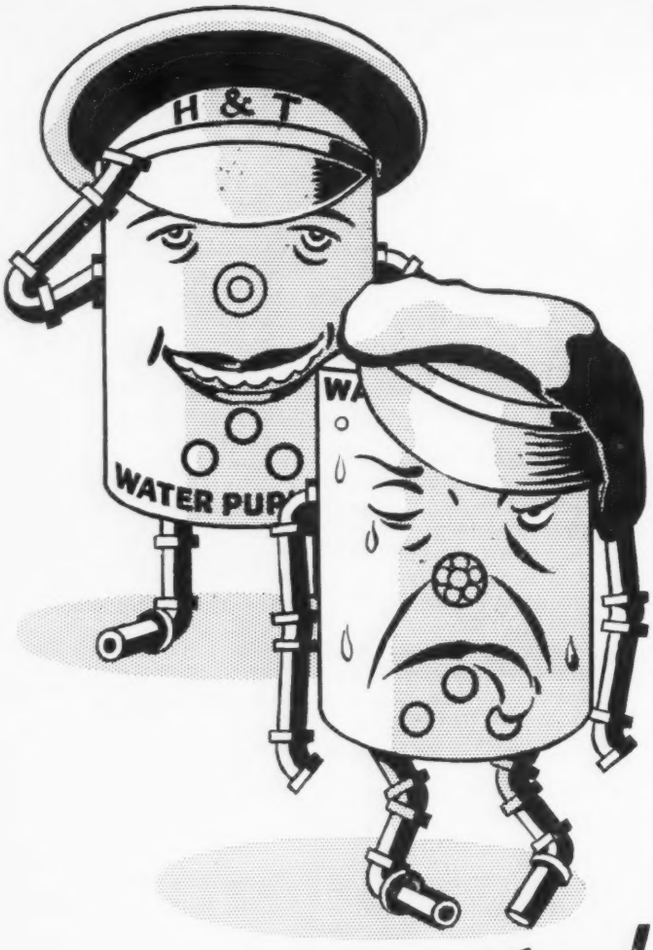
GILL PINS
HACKLE PINS
COMB PINS
FALLER BARS—PLAIN or PINNED
HACKLES FOR MACHINE or HAND
GILLS PINNED
TENTER PLATES PINNED
WET and DRY COMBS
FOR THE BRUSH TRADE

LAGS—GILLS—TENTER PLATES
ROLLS—FALLER BARS
IRON RIVETS
PLAIN or STEEL CLAD LAGS FOR USE IN—
JUTE and FLAX CARDS
COTTON WASTE PICKERS
CARDING BEATERS
RAG or SHODDY PICKERS
WORKER ROLLERS—WOOD or STEEL
STRIPPER ROLLERS—WOOD or STEEL

LUMPERS
WIPING WASTE MACHINES
PINNED FEEDER SLATS
PLAIN SLATS
DOFFER PLATES
WASTE MACHINE—
DOFFER CYLINDERS—STEEL
FEED ROLL LUGS
PINNED FEED ROLLERS

WILLIAM CRABB & CO.

301-3rd Ave., Newark, N. J.



Reveille or Taps!

The performance of your water treatment plant depends not so much upon its age as its *condition.* Completely new equipment is a long way off, but our Field Engineers know how to put new life into your present water purification system quickly and at small cost.

Free Inspection and Check-Up Service

Upon request and without cost to you, our local representative will examine your water softening or filtering equipment inside and out and give you a full report on its capacity, its mechanical condition and its present operating efficiency. You are not obligated in any way to purchase a dollar's worth of equipment or material even though his survey and recommendations result in definite operating economies. The time is short . . . write today to—

HUNGERFORD & TERRY, INC.

Mfgs. of Water Filters and Water Softeners

CLAYTON, NEW JERSEY

WATER PURIFICATION PLANTS

NEWS ABOUT MEN

(Tex.) Cotton Mills, has been elected president of that company.

C. D. Morris, who has held the position of superintendent of Palmetto (Ga.) Mills, has been promoted to president. He was graduated from Alabama Polytechnic Institute, Auburn, Ala.

R. S. Rayan is the newly-elected vice-president of Jennings Cotton Mills, Lumberton, N. C. He and his brother recently purchased a majority of the stock in this mill.

John Wolf, former executive vice-president of old Arnold Print Works, North Adams, Mass., with three others from the Arnold organization, have organized the Texto Sales Corp. which will be located in premises until recently occupied by the Arnold company at 47 Worth Street, New York.

Theo Hampton, formerly with West Point Mfg. Co., Lanett, Ala., unit, has accepted the position of overseer of spinning at Anniston (Ala.) Mfg. Co.

C. M. Hemphill has relinquished his duties as superintendent of Victor-Monaghan Mills, Greer, S. C., and been re-elected a magistrate at Greer.

Edward N. Brower, secretary and treasurer of Rockfish Mills, Inc., Hope Mills, N. C., has been loaned by his company to WPB. He will be consultant on carded yarns, and will spend much of his time in Washington.

A. E. Jury, agent for Winnsboro (S. C.) Mills, a unit of the United States Rubber Co., has been appointed factory manager of the future synthetic rubber plant of this company at Gary, Ind.

Chester McCallum, associated with Bahnson Co., Winston-Salem, N. C., is now head of the Charlotte, N. C., office of the War Production Board.

Hiram W. Brawley of Chester, S. C., formerly a member of the office force of Gayle plant of Springs Cotton Mills, and more recently connected with the textile division of the OPA, Washington, D. C., has been appointed Price Executive of the Virgin Islands, and will maintain his headquarters at Charlotte Amaelia, St. Thomas Island, of the Virgin Island group.

Stanley P. Cole has resigned as general overseer of spinning, warping, and winding of Louisville (Ky.) Textiles, Inc., and has accepted position of general foreman of spinning, spooling and warping for Granby Plant of Pacific Mills, Columbia, S. C.

William D. Jenkins, associated the last 15 years with American Thread Co., covering the Maine and New Hampshire territories has retired. **Charles P. Lauman,** formerly New England sales manager, will take over this territory. Mr. Lauman has been with the thread industry 20 years.

John A. O'Neal, Atlanta, Ga., will continue as head of the cotton buying department of the Springs Cotton Mills, and has withdrawn his resignation. He was scheduled to join the Riverside & Dan River Cotton Mills, Danville, Va., succeeding **Henry Roediger,** as vice-president, as previously reported.

A. B. Emmert, who has been general manager of the Texas Cotton Growers Co-Operative Association, Dallas, for seven years, resigns and is to become manager of the cotton department of Riverside & Dan

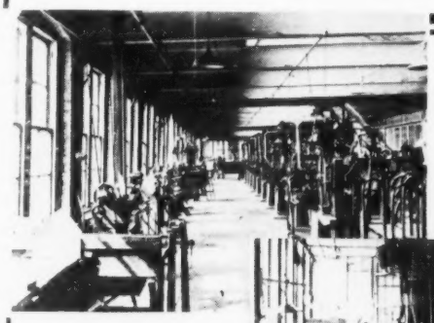
THREE NEW MEN have been named instructors on the staff of Philadelphia Textile Institute. Above, left to right, are Dean M. E. Heard, and the three new teachers—Russell Koenig, Paul Beatty and Robert Pickens. Koenig's former connection was with National Automotive Fibres, Inc., Detroit. Beatty has worked at Peerless Woolen Mills, Rossville, Ga., and Beacon Mfg. Co., Swannanoa, N. C. Pickens was at one time employed by Kay Woolen Mills Co., Salem, Ore.

AMERICA'S LARGEST SHUTTLE PLANT

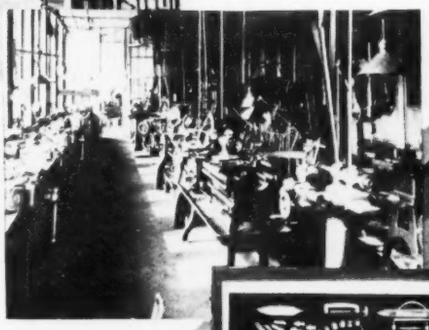
1843 1943

Devoted Exclusively to making Shuttles

NOW UNDER *New* MANAGEMENT



REORGANIZED, RE-TOOLED and READY FOR A SECOND CENTURY of SERVICE.

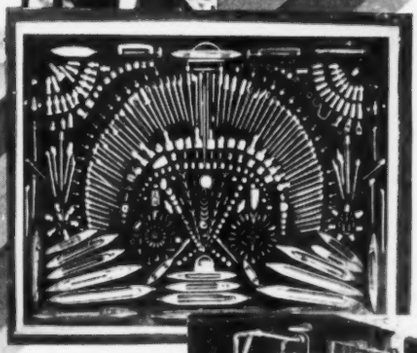


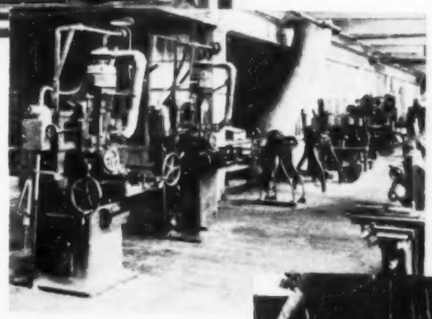
Litchfield shuttles pass through over 100 processing points before reaching our inspection tables. A few illustrations of these shops fully equipped for each process, are shown here.

100 years experience in making shuttles, revitalized by new energetic management.

Immediate Delivery

Enough equipment on hand to make all the shuttles American Looms will use this year; ample supplies of material. Skilled, experienced artisans. All these combined offer America's readiest source of supply in this field.

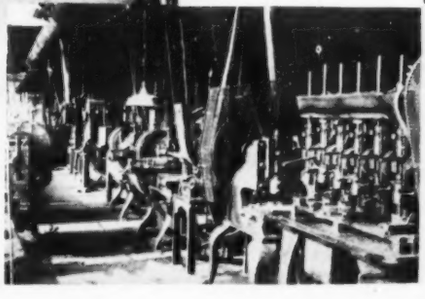




Yes, there is a vast difference in shuttles produced by various makers. Differences in finish, in quality, in texture of wood, skill of workman, in all these Litchfield shuttles are eminently superior. Litchfield has pioneered every shuttle advance in 100 years including fibre armored shuttles.

Send

us your specifications or sample shuttle.



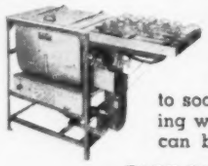
LITCHFIELD SHUTTLE CO.

SOUTHBRIDGE, MASS.

FEDERAL SPECIFICATIONS *call for* ATLAS-OMETERS

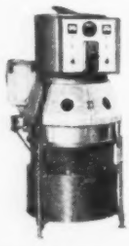
● Atlas-Ometers are the original, accelerated testing machines which must be used to comply with many Federal Specifications.

LAUNDER-OMETER
—for accelerated washing tests



Standard laboratory washing machines of the A.A.T.C.C.—measures resistance to washing action, shrinking, staining, color fastness to soaps and solvents. All factors, including washing action, carefully controlled—can be reproduced exactly at any time.

FADE-OMETER
—for accelerated fading tests



Rotates specimens around the Atlas Enclosed Violet Carbon Arc, the closest approach to natural sunlight. Temperature automatically controlled.

WEATHER-OMETER
—for accelerated weathering tests

Duplicates effect of actual exposure—months of sun, rain, heat, and cold condensed to a few days.

ATLAS ELECTRIC DEVICES COMPANY
371 W. Superior Street, Chicago, Illinois

ATLAS-OMETERS *Accelerated Testing Equipment*
FADE-OMETER • LAUNDER-OMETER • WEATHER-OMETER

THE TERRELL CLEANING AND HANDLING SYSTEM

The improved TYPE K stripper, Automatic Bobbin Box Hoist and Conveyor Elevator—a modern, compact system for increasing the efficiency and lowering the cost of bobbin cleaning and handling.

The **Terrell Machine Co.,** *Inc.*
CHARLOTTE, N. C.

James F. Notman, Needham, Mass. . . . N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J. Penn., N. Y. and N. J.
W. J. Westaway Co., Ltd., Hamilton & Montreal . Canada
Geo. Thomas & Co., Manchester, Eng. . European Agent

NEWS ABOUT MEN

River Cotton Mills, Danville, Va. He will be succeeded by **Dillon B. White,** assistant general manager.

Paul Danforth is the newly-elected manager of Kingsville (Tex.) Cotton Mill.

P. G. Cox has accepted position of manager of San Antonio Cotton Mills, Southton, Tex.

Dr. Roy H. Beaton, a recent graduate of Yale University, has joined the acetate research section of E. I. du Pont de Nemours & Co., Waynesboro, Va.

C. I. O'Neale, Jr., of Spartanburg, S. C., has become cotton man of the Clinchfield Mfg. Co., Marion, N. C., succeeding **W. W. Greene** who has entered military service.

W. P. Johnson, manager of the Thrift plant of Kendall Co., Charlotte, N. C., for the last 12 years, has joined Inman (S. C.) Cotton Mills. He was with the Kendall Co. for 20 years.

George P. Kay, formerly with Spindale (N. C.) Mills, has accepted the position of overseer of carding and spinning at Pacific Mills, Hampton Division, Columbia, S. C.

Raymond G. Daly, who has been senior buyer and specialist in the Textile Division of WPB, has resigned to establish a textile consulting business on his own account in Washington.

Davis Halliwell, in charge of woven cotton goods in OPA, Washington, is resigning from full time work in that office.

William L. Clayton, head of the firm of Anderson, Clayton & Co., Houston, Tex., an authority on cotton, has been nominated by President Roosevelt to be Assistant Secretary of Commerce in charge of civilian aeronautics, succeeding **Robert H. Hinckley,** resigned.

Alfred Marshall, formerly of the Victor Monaghan Cotton Mills, Greenville, S. C., is now a textile inspector in the Government service.

Harold H. Kuchman has become associated with the Howard E. Bishop selling organization, New York, as department head in charge of the Edwards Mfg. Co. He succeeds **Clifford T. Brooks,** who recently resigned.

Martin A. Christie has resigned from the rayon department of Howard E. Bishop selling organization, New York.

W. E. Plaisted has been appointed general manager of Pacific Mills Worsted Division, New York. He joined Pacific in 1929.

Wm. G. Betsch

William G. Betsch, assistant vice-president of William Iselin & Co., New York has been appointed chairman of the Textile Fraud Prevention Committee of the National Association of Credit Men.

Charles Horne, first vice-president, treasurer and general manager of Empire Piece Dyeing & Finishing Co., Paterson, N. J., has resigned.

Eliot A. Dafter has been appointed head of the suiting department at the New York office of Riverside & Dan River Cotton Mills, succeeding **Ben Anderson,** who has joined the armed forces.

Charles F. McNally has been appointed to take charge of men's wear and yarn accounts for Meinhard Greeff & Co., New York. He was lately with Commercial Factors.

Thomas G. Enright, after 42 years of service as office manager and purchasing agent with Joseph Bancroft & Sons Co., of Pennsylvania, at Reading, Pa., retired on July 13. He started working for the original owners Garner & Co. in 1900.

Frederick W. Prentice retired Aug. 1 as agent of the Holyoke (Mass.) mills of American Thread Co. after completing a service of 41 years with that concern. He is succeeded by **Arthur K. Stewart,** of Stamford, Conn., formerly of Holyoke, who set up the No. 3 spinning mill in Holyoke in 1939 when that unit was transferred from Westerly, R. I.

P. T. Wing, formerly at Keene, N. H., has become superintendent of the second shift, Hartford Spinning Mills, Inc., Unionville, Conn.

Harry Monroe has become sales manager for William L. Barrell Co., Atlanta, Ga., having been transferred from the Boston office of the company.

F. S. Elliott is proprietor and superintendent of new

COTTON YARN

is getting its sea legs too . . .

Wherever our fleet goes today, in hundreds of different forms it's taking along many, many pounds of cotton yarns, part of which Aberfoyle is proud to be furnishing. This, along with other Aberfoyle yarns that are helping to fill the huge war needs of our Army, our Marine Corps and our Merchant Marine, is absorbing the greater part of our available yarn supply.

To manufacturers of civilian goods, the resulting shortage for normal uses is a hardship cheerfully endured to contribute toward the Victory. To them: our thanks for their patience and cooperation, and all assurance of our will to help, whenever, wherever we can.

•

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street, Philadelphia, Pa.

—and in the South

ABERFOYLE MANUFACTURING COMPANY
Belmont, North Carolina

Representatives in principal textile centers of the world

ESTABLISHED 1883

aberfoyle

AMERICA'S OLDEST MERCERIZERS OF FINE COTTON **YARNS**

DURENE 2-Ply Mercerized Cotton Yarn • COMETCORD 4-Ply Mercerized Cotton Yarn for 6 x 3 Lines • S-P-Y, the Moisture Resistant Mercerized Yarn • NEOPHIL Nylon Thread for Seaming & Looping Nylon Hosiery • PREFERRED Brand Seaming & Looping Thread ENTWIST Mercerized Cotton Yarn and Nylon Twisted Combination • WEARTWIST, the Domestic Mercerized Lisle • DYED YARNS

BY THE MAKERS OF JOHNSON'S WAX
. . . A WATER REPELLENT
TEXTILE FINISH

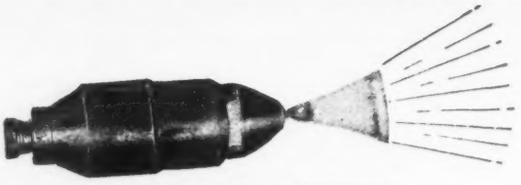
Formula 1860

Johnson's Water Repellent Textile Finish (Formula 1860) is a stable, aqueous emulsion of waxes and non-critical aluminum salts and emulsifying agents. Its use insures high spray and hydrostatic pressure tests. (It is also supplied with copper salts for mildewproofing if desired.) Formula 1860 does not change the color or "hand" of textiles. Nonflammable. May be used on vat or sulphur-dyed textiles. No objectionable odor. Acidity does not need regulation. Inexpensive to use. Supplied to meet Army Quartermaster Department specifications.

For free test sample and full information, write

S. C. JOHNSON & SON, INC.
Industrial Wax Division
Dept. T-82 **Racine, Wisconsin**

THE CAPACITY DOUBLER



RIHCO TYPE B ATOMIZER

Humidifying capacity can be increased 100% with the same compressor and with no increase of power cost when the RIHCO Type B is adopted. Why? Because this ingeniously-engineered atomizer puts every atom of air to work.

Or, if you wish to install a new system of humidification, you can adopt the RIHCO Type B to cut power costs in half, because this atomizer requires a compressor only half the size of the ones usually employed.

Long life, low maintenance, and trouble-free operation. BE RIGHT WITH RIHCO.

R. I. Humidifier & Vent. Co.
Humidifiers since 1912
99 CHAUNCY ST., BOSTON, MASS.

Aldrich Machine Works, Greenwood, S. C.
V. L. Sanderson, 1710 Walnut St., Philadelphia, Pa.
Canadian Textile Engineering, Ltd., Montreal, Quebec

Hildebran (N. C.) Hosiery Mills.

C. L. O'Neale, Jr., Spartanburg, S. C., has accepted position of cotton buyer for Clinchfield Mfg. Co., Marion, N. C., succeeding **W. W. Greene,** who has entered military service.

Edward E. Connor, for the last 13 years manager of American Viscose Corp., Providence, R. I., sales office, has been transferred to the company's New York office to manage the acetate rayon sales division, taking the place of **George L. Storm,** who has reported for duty in the Navy. **Robert F. Thayer,** connected with the Providence office for many years, is assuming Mr. Connor's duties as manager.

W. Harold Smith, recently associated with the cotton spinning laboratory of the United States Government, has joined the staff of the University of Texas, where he is in charge of textile research.

Charles E. Mears, who has served as chief supervisor of the Nylon unit of the E. I. du Pont de Nemours & Co., Seaford, Del., has assumed his new duties as manufacturing superintendent of the Nylon unit of the company at Martinsville, Va., succeeding **W. E. Gladding,** who has been made plant manager.

John P. Hilton, professor of yarn manufacture at the Textile School of North Carolina State College, Raleigh, N. C., has gone to Washington to serve as textile consultant in the QM Corps.

J. W. Sauer, Philadelphia, has been appointed by Riverside & Dan River Cotton Mills to sell their yarn in the Philadelphia territory.

C. E. Clark is now acting in an advisory capacity at the new Quaker Meadow Mills, Hildebran, N. C. He was formerly with Riverside & Dan River Cotton Mills, Danville, Va.

Paul Grueber has accepted position of assistant general manager of Pacific Mills, Hampton Division, Columbia, S. C., and at Lyman, S. C., with headquarters at Lyman.

L. C. Thomas has become assistant to **Carl R. Harris,** vice-president and assistant treasurer of Erwin Cotton Mills, Durham, N. C.

Charles Reynolds has been appointed general superintendent of Spindale (N. C.) Mills, Inc., having been promoted.

William F. Neumann, formerly overseer of carding and spinning at Atlanta (Ga.) Woolen Mills, has taken over his new duties as overseer of woolen carding and picking at Excelsior Woolen Mill, Union, S. C.

HELENE FONTAINE, secretary to Gordon Cole, advertising manager of Cannon Mills, New York, reported early in August at Fort Des Moines, Iowa, as one of the officer candidates of the WAACS from the Second Corps area.

Joseph Whalley, Jr., formerly of Hathaway Mfg. Co., New Bedford, has become superintendent of weaving at Greenhalgh Mills, Pawtucket, R. I.

George R. Kay, general superintendent of Spindale (N. C.) Mills, Inc., has resigned to accept a position as superintendent with the Columbia (S. C.) division of Pacific Mills.

L. R. Pittenger has been promoted to overseer of carding at Avondale Mills, Alexander City, Ala. He succeeds **B. D. Snow.**

J. P. Holder has resigned his position with Callaway Mills, LaGrange, Ga., to become overseer of carding at Mississippi Cottons, Inc.

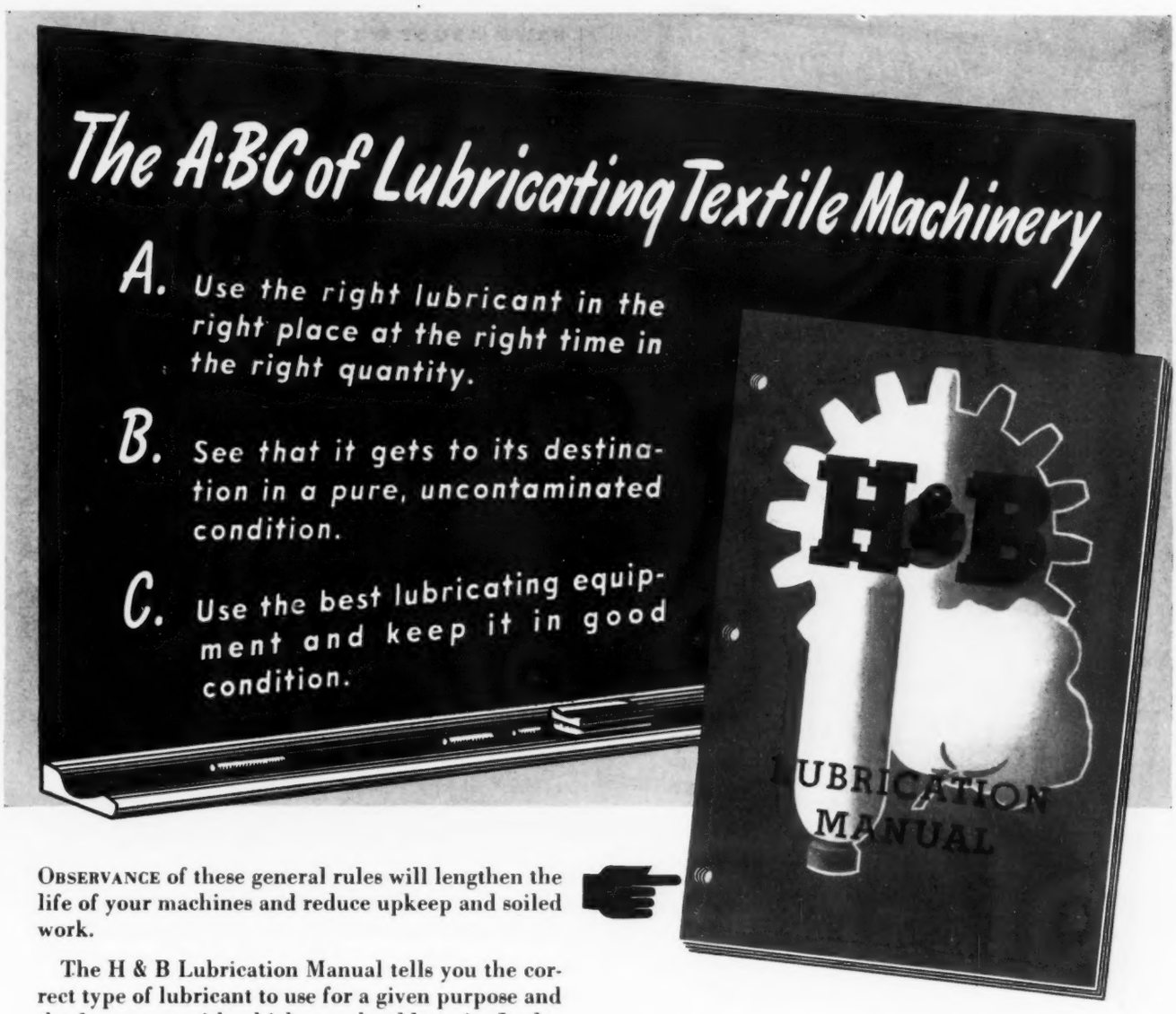
M. M. Roberts, formerly with Morgan Mills, Laurinburg, N. C., is superintendent of a new plant which is being established at Maxton, N. C., which will have an initial machinery set-up of 11 sets of wool cards and eight mule spinning frames.

W. H. Connor is now overseer of spinning at Avondale Mills, Birmingham, Ala., unit. He resigned his similar position with Virginia Mills, Inc., Swepsonville, N. C., to accept this new position.

C. L. Poole, formerly of Knoxville, Tenn., has become overseer of carding and spinning at Judson Mills, Greenville, S. C.

Cyril Parent has been made overseer of weaving at Madison (Maine) Woolen Mills.

Jesse Wilbanks has been appointed overseer of carding at Central (S. C.) Mills.


The A·B·C of Lubricating Textile Machinery
A. Use the right lubricant in the right place at the right time in the right quantity.
B. See that it gets to its destination in a pure, uncontaminated condition.
C. Use the best lubricating equipment and keep it in good condition.
H&B
LUBRICATION MANUAL

OBSERVANCE of these general rules will lengthen the life of your machines and reduce upkeep and soiled work.

The H & B Lubrication Manual tells you the correct type of lubricant to use for a given purpose and the frequency with which you should use it. It also suggests small quantities of lubricant at frequent intervals rather than large quantities at infrequent intervals, to avoid waste, soiling of work and dry bearings.

A separate, isolated room for lubricants, with all containers clearly marked, and ONE responsible person in charge; clean oil holes, cups and pressure fittings before introducing lubricants; place nozzle of squirt can on inside of oil hole or cup before lubricant is ejected and wipe free on inside of hole before removing;—these are other recommendations.

As to lubricating equipment, an adjustable oil can which will regulate the amount per shot down to one drop is preferable. The size of the nozzle should be adapted to the fluidity of the lubricant and the lubricating equipment should be kept clean and in good working order.

★ ★ ★

The suggestions herewith are only highlights from the H & B Lubricating Manual. Send for a copy of the complete treatise to get the full story. It means money in your pocket.

H & B AMERICAN
TEXTILE MILL MACHINERY
Boston Office: 161 Devonshire Street; *Atlanta Office:* 815 Citizens & Southern National Bank Building.

MACHINE COMPANY
PLANT AT PAWTUCKET, R. I.
Charlotte Office: 1201-3 Johnston Building; *Export Department:* United States Machinery Co., 115 Broad Street, New York, U. S. A.

To Textile Dyers Doing A War Job...

IN CLEANING STAINLESS STEEL EQUIPMENT AVOID MATERIALS THAT CAUSE CORROSION

Do not use ordinary steel wool or steel brushes on stainless steel equipment. Steel particles rubbed off the steel wool or brushes may become imbedded in the stainless steel. The particles will rust and discolor the stainless steel surface and can be the focal point of serious corrosion.

You can avoid the contamination of dye solutions by using only stainless steel wool or brushes for cleaning. Watching details like this will help you keep your equipment in good working condition for your wartime assignment. When maintenance problems arise let us know about them. Perhaps one of our engineers can give you a "helpful maintenance" suggestion.

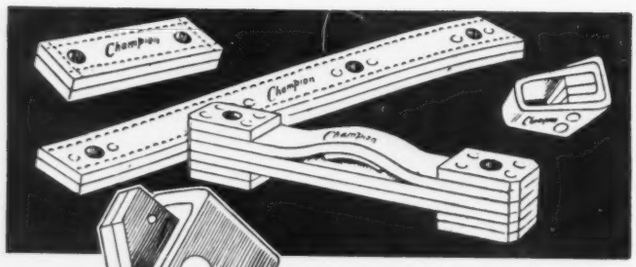
All orders subject to Government Priority Regulations.

★ Specialists in Manufacture of Stainless Steel Dyeing Equipment

S. BLICKMAN, INC.

208 GREGORY AVE., WEEHAWKEN, N. J.

EST 1889



QUALITY

The Quality of Champions is in Champion Textile Leather Products.

The W. D. Dodenhoff Company is a firm of experts in this field, and textile leathers are *not* a side-line.

The will to win, plus a super amount of know-how, are responsible for the success of Champion Textile Leathers.

CHAMPION

W. D. DODENHOFF COMPANY

619 RUTHERFORD STREET

GREENVILLE, SOUTH CAROLINA

Textile Men in Armed Services

Robert L. Cole, president and treasurer of the Hannah Pickett Mfg. Co., Rockingham, N. C., has been appointed a first lieutenant in the Army and reported for duty at Camp Lee, Va.

G. Blair Gordon, president and managing director of the Dominion Textile Co., Montreal, has enlisted in the Seventh Reconnaissance Regiment.

John Richardson, advertising manager of Crompton & Knowles Loom Works, Worcester, Mass., has received a commission as major in the Army Air Corps and ordered to Jefferson Barracks, Mo. He served in the first world war as captain in the Air Corps.

Brig. Gen. Allen R. Kimball was recently advanced from colonel. He is now in command of the Jeffersonville (Ind.) Quartermaster Depot. He is a 1911 graduate of West Point.

Hugh Moretz, manager of New City Mills, Newton, N. C., has volunteered for service in the Navy, and is attending a training school in Rhode Island.

John C. Folsom of American Viscose Corp.'s Philadelphia sales office has joined the Army. **John Wiggins** left the same office a little over a year ago to join the Navy as an ensign, and now ranks as lieutenant, senior grade. **H. J. Sanders,** of the corporation's fabric development department, has joined the Army. **F. Douglas Cudlipp,** of the economics and statistics department, has been commissioned second lieutenant, in Army and **William S. McKee,** of the New York sales staff, has also been commissioned second lieutenant.

Louis S. Gilbert, vice-president of Gold Maid Hosiery Co., Chicago, has been commissioned an ensign in the Navy.

George M. Wright, Jr., superintendent of Republic Cotton Mills Nos. 1 and 2, Great Falls, S. C., has been inducted into the Army at Fort Jackson, S. C.

A. Starke Dempewolff has been granted a leave of absence from the advertising department, of Celanese Corp. of America, New York, for active service in the Army. Mr. Dempewolff has been commissioned a captain in Ordnance, and assigned to duty at Camp Sutton, Monroe, N. C.

Edward A. Quintard, formerly superintendent of Swift Mfg. Co., Columbus, Ga., is now a lieutenant in the U. S. Aviation, having been graduated as a pilot officer from the flying school at Turner Field, Albany, Ga.

Sam L. Diggle, Jr., formerly manager of Charlotte, N. C., office of Acme Sales Co., is now a lieutenant in the Naval Reserve.

Joe W. Richardson, superintendent of Russell Mfg. Co.'s bleachery, Alexander City, Ala., is now second lieutenant in ordnance at Huntsville, Ala.

Andre Blumenthal, vice-president of Sidney Blumenthal Co., Shelton, Conn., is now a lieutenant, junior grade, in the Navy.

Bassford Redd, superintendent of Jefferson Mills, No. 3, Royston, Ga., has resigned to enlist in the U. S. Army. He has been succeeded by **Nathan Dearman,** who has been assistant superintendent.

John C. Wilmerding, formerly with the acetate rayon sales division of American Viscose Corp., has been promoted from ensign to junior lieutenant in the Navy.

Griswold Hill has resigned from the promotional staff of the Durene Association of America, New York, to become a captain in the Army Air Corps.

Robert Ray, formerly manager of the production department at Riverside & Dan River Cotton Mills, Danville, Va., is now second lieutenant in the Army located at the army base in Boston, Mass.

Maurice G. Phillips, assistant superintendent and designer at Dodge-Davis Mfg. Co., Bristol, N. H., is now stationed at Fort Bragg, N. C., in the Field Artillery.

W. Murray Clark, Jr., formerly with the Kendall Co., Paw Creek, N. C., unit, is now in Northern Ireland with the U. S. Army.

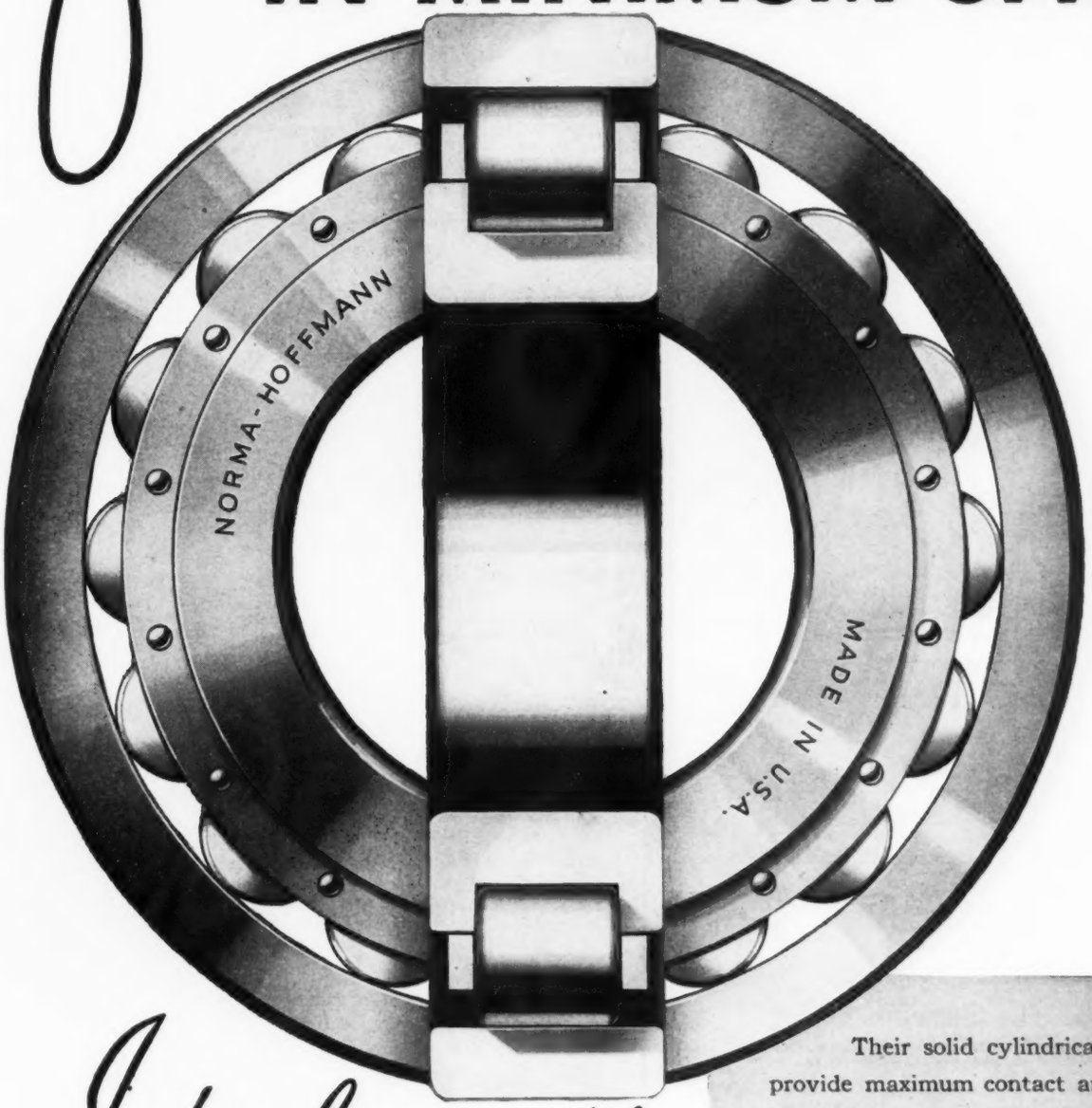
Harold S. Bullard, of the Military Fabrics Department of Southeastern Cottons, Inc.,

---

PACIFIC MILLS reports that at latest count 1,048 men from its mills in South Carolina and Massachusetts and from its offices in New York and Boston have joined the armed services of the United States. Many are now active on the fighting fronts.

---

for MAXIMUM CAPACITY IN MINIMUM SPACE



Interchangeable

WITH SINGLE-ROW BALL BEARINGS

NORMA-HOFFMANN

PRECISION ROLLER BEARINGS

NORMA-HOFFMANN BEARINGS CORP'N.,

STAMFORD, CONN., U. S. A. • *Founded in 1911.*

Write for the Catalog. Let our engineers work with you.

Their solid cylindrical rollers provide maximum contact area, giving larger load and shock-absorbing capacity than any other single-row bearing of like dimensions. Thus, when NORMA-HOFFMANN PRECISION ROLLER BEARINGS are used in place of ball bearings, a greater factor of safety is provided, together with added life, particularly under vibration and overload. PRECISION qualities in workmanship and materials adapt them alike for both low and high speeds.

★

CLOTH ROOM MACHINERY FOR DUCK

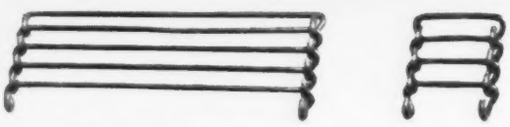
Eight Roll Vertical Brusher

★ Brushing Machines
★ Shearing Machines
★ Inspecting Machines
★ Rolling Machines
★ Sewing Machines

Send for CATALOG NO. 7 showing Machinery for essential Cotton and Rayon fabrics for the war effort and civilian needs.

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS
Branch Offices: NEW YORK · PHILADELPHIA · GREENVILLE, S. C.

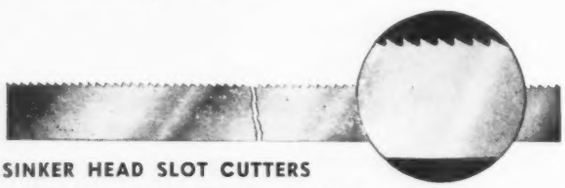
Opportunities...
TO IMPROVE YOUR PRODUCT AND SAVE YOUR MONEY...



NARROWING CHAIN

Accurately made from high grade material—built to last and to hold its shape.

Send for bulletin giving full details on these and other products.



SINKER HEAD SLOT CUTTERS

The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

THOMAS & SKINNER
STEEL PRODUCTS COMPANY
1119 East 23rd Street Indianapolis, Indiana

NEWS ABOUT MEN

New York, has peen called from reserve status to active duty, in the Army.

Alex Hanes, of the Charlotte office of American Viscose Corp., has joined the Army officer training unit.

S. Reed Anthony, of American Viscose Corp.'s, sales office at Charlotte, N. C., has received his commission as lieutenant, J. G., in the Navy.

H. M. Rogers, formerly engineer for Muscogee Mfg., Columbus, Ga., and more recently with Lockwood Greene, Engineers, Inc., Spartanburg, S. C., has reported to Camp Edwards, Mass., as a first lieutenant in the Corps of Engineers, U. S. Army.

Ralph B. Ream, for a number of years in the knitting department of Rosedale Knitting Mills, Reading, Pa., is in the Army as a private first class.

Ensign Julius Rockwell, Jr., son of the president of Merrimack Card Clothing Co., Andover, Mass., and nephew of Sam E. Rockwell, treasurer of Davis & Furber Machine Co., North Andover, participated, on the aircraft carrier Lexington, in the battle of the Coral Sea. He was with those who slid down a rope from the deck as the carrier burned. He was recently home on leave and was to be commissioned lieutenant, junior grade, on returning to duty.

Nat. G. Slaughter, a member of the sales force of Callaway Mills, LaGrange, Ga., has entered the army as second lieutenant.

Wm. A. Rhinehardt, superintendent of Spindale (N. C.) Mills, Inc., Cleghorn unit, has been called into the army as a lieutenant.

Ralph Gossett, Jr., representative of a textile supply house of Greenville, S. C., and a grandson of the late J. P. Gossett, pioneer textile executive, has entered naval aviation training.

Richard M. Strong, of the Chicago office of Nashua Mfg. Co., has been appointed lieutenant, junior grade, in the Navy, and will receive training at the South Boston Navy Yard.

Ray Whitney, associated with J. P. Stevens & Co. in their St. Louis and Los Angeles offices, has been inducted in the Army.

Obituary

Howard E. Colman, 69, founder and president of Barber-Colman Co., Rockford, Ill., died as a result of injuries sustained in an automobile accident, June 25. When a boy at Beaver Dam, Wis., he began his career of invention, developing a device for drawing warp threads into the eyes of the loom harness. He received financial support from W. A. Barber, a lumberman, and the firm of Barber-Colman was formed. Having moved to Rockford in 1893, he invented a check-pump for measuring milk, on the profits from which he was able to develop further his textile machine. He invented a hand knotter in 1899, and in less than two years had a production of 500 per month. In 1902 the first building of the present plant was erected. In 1904 he brought out the warp-tying method. He began work on spooling and warping devices as early as 1900, but it was not until 1912 that the first automatic spooler was brought out, followed in 1922 by the present automatic spooler with high-speed warper. In 1935 the Franklin Institute awarded Mr. Colman the Longstreth medal. Mr. Colman's inventions covered many fields outside of textiles and his organization now employs approximately 3,000 in a wide field of manufacture.

Howard D. Coleman

Thomas E. Ochiltree, 68, active in the wholesaling of wool goods since 1920, died in New York on July 24. He joined the firm of E. H. Van Ingen & Co., and was chief executive of the firm for many years prior to his death.

Alfred M. Coats, 74, member of the world-famous thread manufacturing family, died at Nayatt, R. I., July 22. He had

INSPECTION tables, knitting machine platforms, factory truck bodies can be given a clean, hard, non-porous non-absorbent working surface with Formica sheets which will save time and prevent injury to the product.

The material while hard is not brittle or easily shattered. There are never any splinters to snag fine fabrics. Measuring scales may be inlaid in the surfaces. A wide range of light or dark colors makes possible a table surface contrasting in color with the goods handled. Two colors may be provided in one table.

Used as truck body linings the non-absorbent Formica can be easily flushed off between loads of different colors, so that dye will not be carried over from one batch to the next.

Formica also has many mechanical uses in textile machinery: tenter frame openers, loom box linings, separators. It has a smooth durable surface, weighs only half as much as aluminum, is non-metallic and silent.

FORMICA

The Formica Insulation Company

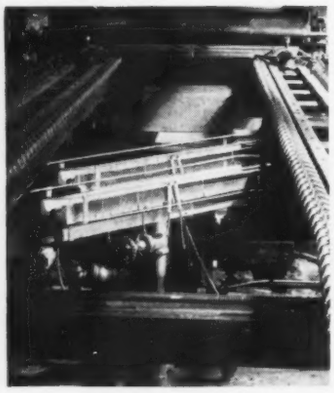
4628 Spring Grove Ave., Cincinnati, Ohio

Increase Production

2 to 5 times!

with present

Drying Equipment



One typical mill stepped up drying from 40 to 120 yds. per minute with a Red-Ray unit.

Red-Ray Textile Drying Units not only increase production but *improve the quality* of the finished product. You can apply the Red-Ray Drying Unit to every process where heat is required—at only a fraction of the cost of additional machinery. No added manpower.

• **Write for data—let us give you the answer to your problems—at once.**

RED-RAY MFG. COMPANY

445 W. 45th St. **New York, N. Y.**

HERE'S HANDY HELP

for solving technical and business problems

When you want information fast—for dealing with difficult production problems, for settling special managerial questions, or for handling the "1001" situations that arise in every shop, office, laboratory and field—

get the facts—experience—data you need to solve your particular problems from

McGRAW-HILL BOOKS

NEW 302-PAGE 1942 CATALOGUE NOW READY!

Here is your free guide to practical, expert information on scores of subjects—from Accounting to Zoology. It contains clear, concise descriptions of more than 2000 authoritative, informative books written by leaders in industry, business, engineering and the sciences. For your copy fill in and mail coupon. (Also note on it subjects of special interest on which you desire detailed information.)

MAIL THIS COUPON

McGraw-Hill Book Co., Inc., 330 W. 42nd St., N. Y.

Send me a free copy of the New 1942 Catalogue of McGraw-Hill Books. I want to know more about:

.....

.....

Name .....

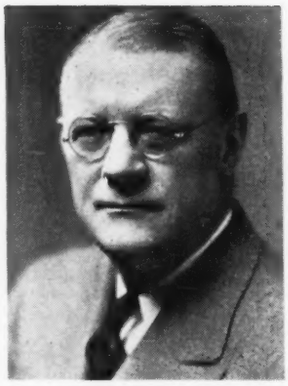
Address .....

City ..... State ..... FTW. 8-42

NEWS ABOUT MEN

been general director of the J. & P. Coats Co. plant at Pawtucket until he retired from active business many years ago.

Dean Hill, 54, president of the Durene Association of America and of the Mercerizers Association of America, New York, since 1934, died in an Atlanta, Ga., hospital, July 16, following a long illness. He was a graduate of the Georgia School of Technology and was for 20 years in textile manufacture and sales. He joined the Throwsters Research Institute in 1932 and became its president shortly thereafter, from which post he was called to the mercerizers' group.



Dean Hill

Thomas F. Glennon, 81, president and agent of Quissett Mills, New Bedford, Mass., director of Hoosac Mills, New Bedford, and of West End Thread Mills, Millbury, Mass., died at Mattapoisett, Mass., on July 15. For over 60 years he had been prominent in cotton manufacturing, and other business enterprises, and served as agent for Quissett since the plant was built in 1910. His first job was with Wamsutta Mills as a doffer at $3 weekly.

Gibbons G. Slaughter, president of the G. G. Slaughter Machinery Co., Charlotte, N. C., died July 16. He was long associated with the textile industry, and at one time was purchasing agent for a large number of southern mills. He was the first secretary of the Southern Exposition at Greenville, S. C.

Eugene Cross, Sr., 68, founder and president of Cross Cotton Mills, Marion, N. C., died July 5. He was at one time manager of Taylorsville (N. C.) Cotton Mills. He organized the Cross Cotton Mills in 1916; and in 1929, he organized the Eugene Cross Co., an allied plant in which he designed his own machinery.

J. P. Abney, 57, cotton mill executive, of Greenwood, S. C., died July 12. He was president and treasurer of Grendel and Panola mills, Greenwood, S. C., Anderson (S. C.) Mill, Belton (S. C.) Mill and Courtenay Mfg. Co., Newry, S. C.

Crawford F. James, 64 founder and general manager of Elizabeth James Hosiery Mills, Marion, N. C., died June 16 at Hot Springs, Ark. He was also president of Etta Paper Box Co. and owner of the James Hotel, both of Marion.

Robert F. Runge, 56, vice-president of SKF Industries, Inc., Philadelphia, died July 6 in Germantown Hospital. His entire business career was spent with SKF and its predecessor, the Hess-Bright Mfg. Co.

Ferdinand Heller, 77, founder and vice-president and treasurer of Royersford (Pa.) Needle Works, died July 30. Mr. Heller came to America from Germany in 1907 and established a needle manufacturing business in Philadelphia. In 1917 he built the first plant at Royersford.

Fred D. Crawford, 72, vice-president of Hanes Hosiery, Inc., New York, died July 24. He was in the wholesale dry goods business for 40 years before becoming associated with Hanes 10 years ago.

Frank S. Dunham, 66, associated with Permutit Co., New York, for 25 years, died July 23.

Daniel Robinson Grandy, 49, Nela Park lighting executive and director of applied fluorescent lighting to wartime industries, died July 11. He was with General Electric Co. for the last 18 years.

Arthur L. Tucker, 76, retired New Bedford, Mass., cotton broker, died in that city on July 2. He entered business for himself in 1891, continuing until 1928.

Max Higgins, 44, overseer of weaving at Aileen Mills, Biscoe, N. C., died recently.

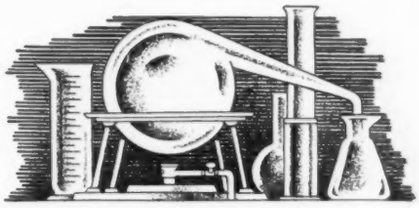
William M. Cargill, 56, one time superintendent of the Loray Mill, now the Firestone Mill, Gastonia, N. C., and later superintendent of Plants 1 and 2 of the Pee Dee Mills, Rockingham, N. C., until last fall, when he retired owing to ill health, died July 13, at Dallas, N. C.

J. William Smith, 49, superintendent of Oakbrook Hosiery Mills, Reading, Pa., died July 8.

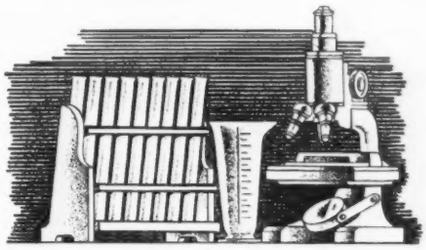
Charles Singer, 50, president of Ming Toy Dyeing Co. and Riverside Finishing Co., Paterson, N. J., died recently.

L. O. E. Roessel, 68, retired member of the silk manufacturing firm of Louis Roessel & Co., New York, died July 6.

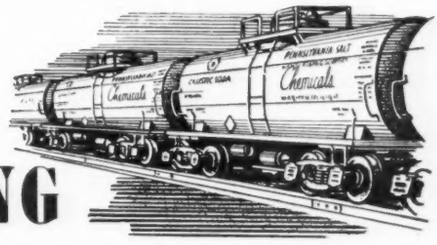
PURITY TO PROTECT YOUR PROCESSES



UNIFORMITY TO SPEED PRODUCTION



SPECIAL TANK CARS FOR EFFICIENT HANDLING



CAUSTIC SODA

made by Penn Salt

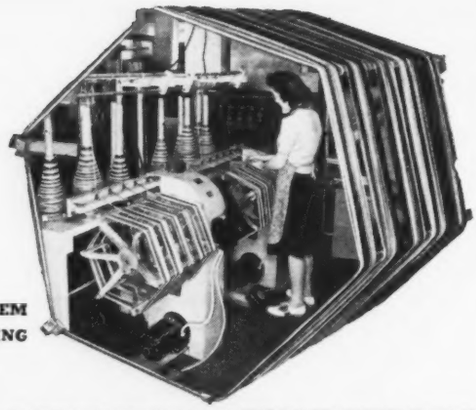
Penn Salt Caustic Soda will meet your most exacting requirements for quality and uniformity. A double purification process makes it low in salt content, low in carbonates, and extremely low in iron.

The Penn Salt tank cars for liquid Caustic Soda cut handling costs by making unloading easier, safer and more complete. Each is equipped with a protective lining, special draining plates and simple, easily accessible fittings. A dome safety platform and guard railing protect your workmen.

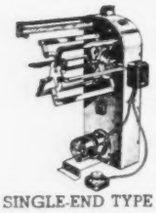
This clean Penn Salt caustic can be supplied as 50% and 72-73% solutions in 8000-gallon tank cars; as a solid in 750 lb. drums; or in flake form in 400 and 100 lb. drums. Our technical staff is at your service to help with problems of handling.

Write for complete information.

PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals
1000 WIDENER BUILDING, PHILADELPHIA, PA.
New York • Chicago • St. Louis • Pittsburgh • Wyandotte • Tacoma



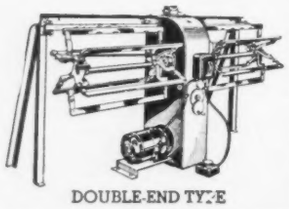
FIDELITY
TWIN-UNIT SYSTEM OF SKEIN REELING
TWO TYPES


SINGLE-END TYPE

FIDELITY SKEIN REELERS
***Speed* Production with**
30- to 50-second doffing cycle

So that production of odd and regular lots of yarn that require special treatment may be speeded . . . FIDELITY offers a time- and labor-saving method of skein reeling.

The Twin-Unit System—30- to 50-second doffing cycle—keeps operators continuously occupied, with less operator fatigue, with work that counts for production...namely, the taking off of finished skeins and the starting of new ends. No wait for winding. Short reels, each with a free end, make doffing easier and faster . . . results—new high rates of output at lower costs. *Write for Bulletin.*


DOUBLE-END TYPE

FIDELITY MACHINE COMPANY
3908-18 Frankford Ave., Philadelphia, Pa.

Drummond SOAP

Here is a high-body product with all the qualities you look for in a fine textile soap. Drummond is a pure soap of low alkali content and without filler of any kind. . . . It has a high binding quality that results in minimum flocking. . . . Rinses easily and completely thus cutting down on the cost of steam and water. . . . Improves fulling and scouring operation, leaving fabric perfectly clean with softest feel, better hand, brighter colors and whiter whites. . . . Glad to send you a sample for testing on your own goods—no fee, no obligation.

OTHER HIGH GRADE "STANDARD" PRODUCTS
Stanso Palm Oil Curd Soap, Etc.

Standard Soap co. of camden

Charlotte, N. C.
CATO M. LITTLETON
426 PARK TERRACE

205 South 2nd St.
Camden, N. J.

Woonsocket, R. I.
G. TANGUAY
281 HARRIS AVE.

TEXTILE MILL NEWS

Cotton Mill News

Abbeville (S. C.) **Cotton Mills** have constructed a picker room. Mill has been reconditioned and a new roof installed.

Balston Yarn Mills, Inc., Lincolnton, N. C., have installed a complete new lighting system, new floors have been laid and the plant has been painted throughout.

Brandon Mill, Woodruff, S. C., are repairing, rewiring and repainting all dwellings of the village.

Buffalo Mills, Shelby, N. C., plans rebuilding the part of the mill which was recently damaged by fire.

Choate Mills, Inc., Charlotte, N. C., is a newly organized mill for manufacture of all types of yarns, yarn products and by-products.

Marshall Field & Co., has completed an addition to the Fieldale (Va.) Towel Mill, Robert & Co., Atlanta, Ga., prepared the plans.

Green River Mills, Inc., Tuxedo, N. C., has completed extensive improvements, including a fireproof waste house, 40 x 80 ft., and an addition to be used as a winder room. New equipment will include two pickers with feeder equipment.

Harmony Grove Mills, Commerce, Ga., which has had an extensive expansion program under way, has announced plans for installation of additional spinning and carding machinery, also.

Henry River (N. C.) **Mills** have installed a new Foster winder.

Hodges Fiber Mills, Holyoke, Mass., have moved from Indian Orchard to Holyoke, Mass., where it has taken 150,000 sq. ft. on three floors of the main building in the No. 1 unit of the former Farr Alpaca Co. The Holyoke Industrial Properties, Inc., the new owners, leased the space to Hodges. Harvey D. Bray, of Springfield, is in charge, and plant is booked with orders from the Agricultural Department, for union and other bag material for farm products. Hodges is a unit of Patchogue-Plymouth Mills.

Itasca (Tex.) **Yarn Mill, Inc.,** is now operating with 2,800 spindles. Tom Tirado is president.

Jefferson Mills, No. 2 unit, Crawford, Ga., are constructing a two-story addition. Newest type machinery will be installed in the addition to increase capacity.

Kingsville (Tex.) **Cotton Mills** are now in operation with Paul Danforth as sole owner. The company has 2,440 spindles. Product is twine and webbing.

Monroe (Ga.) **Cotton Mills** are completing an office building. The mills have had an expansion program under way which included the construction of a two-story addition, which added 40,000 sq. ft. of space. In this addition is housed a new opening room, supply room and waste house. One dozen new Whitin cards 90 reconditioned looms, a high-speed Foster winder, high-speed folders and automatic shears have been installed. This program represented a cost of about $150,000.

Nashville, Tenn.—State Penitentiary is setting up looms to make 100,000 yd. of osnaburg under arrangement with WPB.

Quaker Meadows Mills, Inc., Hildebran, N. C., recently established to manufacture cotton yarns, has diverted production to coarse yarns and twines for Government service, and will give over entire mill facilities of about 4800 spindles and 1440 twister spindles to this output. Bascom B. Blackwelder is head.

Reid Mills, Hogansville, Ga., is the new name for the former plant of Callaway Mills, recently purchased by the United States Rubber Co., and named in honor of David Reid, who had been superintendent of the Hogansville unit of the Callaway Mills for more than 20 years.

Riverside & Dan River Cotton Mills, Danville, Va., plan expansion in cotton yarn units, with installation of additional equipment.

Samoset Cotton Mills, Talladega, Ala., in connection with a general mill improvement program, are installing fluorescent lighting.

J. C. Sanders Cotton Mill Co., Inc., Mobile, Ala., has asked bids on general contract for new mill at Prichard, near Mobile, comprising several buildings, reported to cost in excess of $650,000, with machinery. Harry Pembleton, Birmingham, Ala., is architect.

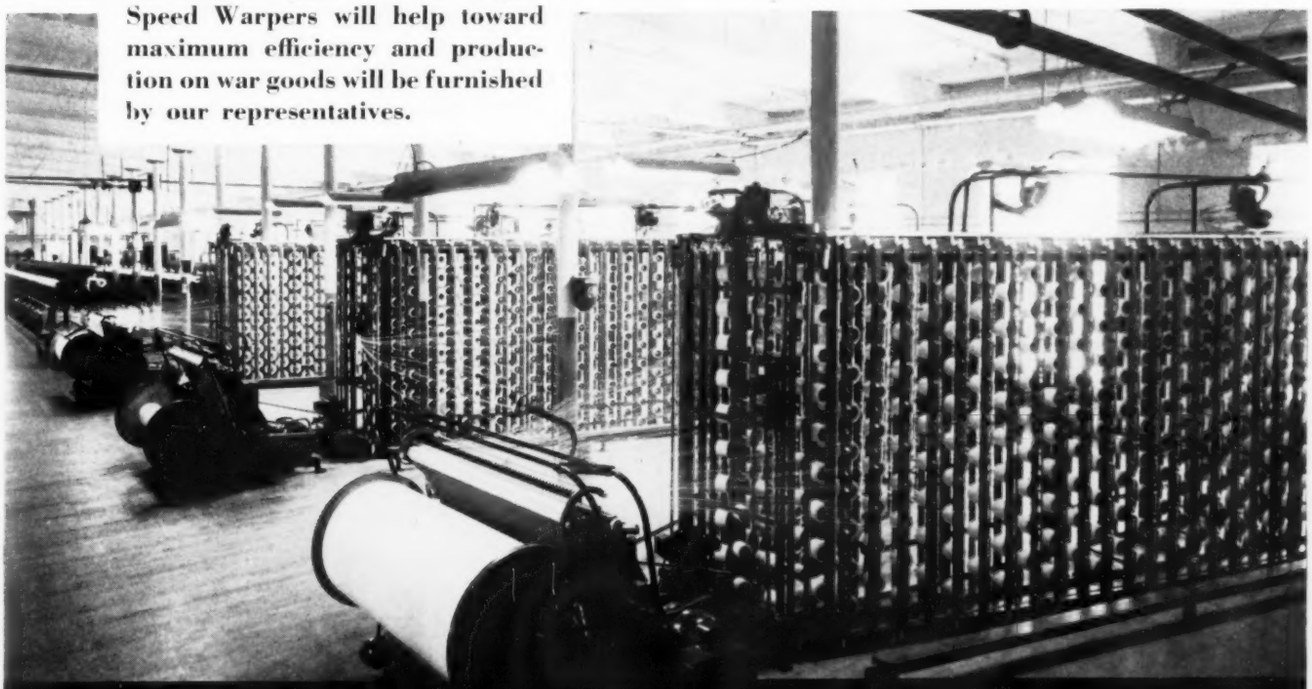
South Fork Mfg. Co., Belmont, N. C., has completed an addition to the warehouse.

Summit Yarn Mill, Lincolnton, N. C., cotton spinning mill, has had approximately 75% of its interest purchased by Belding Heminway Co.

BETTER QUALITY . . . GREATER PRODUCTION

TO HELP in meeting the present demand for large production of high-quality goods, the Barber-Colman System of Spooling and Warping offers many advantages. On this equipment, yarn is handled in such a manner as to provide a uniform high quality of product. Help can be trained to operate these machines in a relatively short period of time, and the production per operator is much higher than on hand-operated machines. Full information on how Barber-Colman Automatic Spoolers and Super-Speed Warpers will help toward maximum efficiency and production on war goods will be furnished by our representatives.

BARBER-COLMAN AUTOMATIC SPOOLERS SUPER-SPEED WARPERS



BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

RYERSON CERTIFIED STEELS

Prompt Shipment from 10 Strategically-Located Steel-Service Plants... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Detroit, Buffalo, Cincinnati, Cleveland, Boston, Philadelphia, Jersey City.

Engineers J. E. SIRRINE & COMPANY GREENVILLE SOUTH CAROLINA

INDUSTRIAL PLANTS • PAPER MILLS • TEXTILE MILLS • PLANS AND DESIGNS

STEAM UTILIZATION • TOBACCO FACTORIES • KNITTING MILLS • LOCATION STUDIES

APPRAISALS • REPORTS • WATER TREATMENT • WATER SUPPLY • SURVEYS • POWER

TESTING points the way

In this year of unprecedented problems, the 60 models of *Scott Testers help you find the best solution quickly. Models for tensile, flexing, hysteresis, burst, twist, crepeage, etc., from single hair to 1 ton.

SCOTT TESTERS

* Registered Trademark

HENRY L. SCOTT CO. 95 Blackstone St. Providence, R. I.

TEXTILE MILL NEWS

Tallapoosa (Ga.) **Mills, Inc.,** in liquidation, have been purchased by Otto F. Feil, Atlanta, Ga., real estate operator, who will place property on market.

Utility Fabrics Co., Inc., 1 Federal St., Boston, Mass., has been incorporated with capital of 4000 shares of stock, no par value, to manufacture cotton fabrics of various kinds. Beardsley Lawrence is president; and Frederic H. Davis, treasurer. Company is reported planning establishment of mill at Huntington, W. Va., where property, it is said, has been acquired.

Wamsutta Mills, New Bedford, Mass., have approved plans for immediate razing of old mills Nos. 1, 2 and 3, no longer in service, totaling about 250,000 sq. ft. of floor space.

West Point Mfg. Co., Langdale, Ala., unit, has completed the construction of a one-story addition for warehouse; also a one-story addition to the opening room. The company will donate $150,000 to a hospital which Chambers County expects to build, equip and maintain at a cost of about $300,000, on land that West Point gave for the purpose in the Chattahoochie Valley.

Wool Mill News

Abilene (Tex.) **Wool & Mohair Co.,** recently organized by S. M. Jay, Abilene, and associates, plans operation of a local mill.

American Felt Co., Glenville, Conn., has awarded general contract to Mertz Co., Port Chester, N. Y., for alterations in a one-story building, 32 x 80 ft., on Pemberwick Rd., Greenwich, Conn., to be used for storage.

Arlington Mills reports net profit, after taxes and charges, of $640,414 for first six months of 1942. The reserve for taxes from the six-months operating profit of $2,773,414 amounts to about $20 per share.

Belmont Woolen Yarn Mills, Woonsocket, R. I., have awarded general contract to Brien Building Co., Inc., Woonsocket, for two-story and basement addition, 60 x 140 ft., for warehouse. Cost close to $60,000.

Charlottesville (Va.) **Woolen Mills** have completed installation of new and larger dyeing machines.

Marshall Field & Co., Draper, N. C., has added a new raw-stock dye plant to its Draper Blanket Mill. Robert & Co., Atlanta, Ga., prepared the plans.

Forstmann Woolen Co., Passaic, N. J., has leased space in an industrial building on Clifton Blvd., Clifton, N. J., about 20,000 sq. ft. of floor space, and will use for warehouse.

Glenside Mills Corp., Skaneateles Falls, N. Y., has received assurance of funds with which to reopen and continue on Government contracts.

Rochambeau Worsted Co., Providence, R. I., has taken out a permit for improvements in mill on King St.

Rayon & Silk Mill News

Burlington Mills Corp., Greensboro, N. C., has purchased the plant and other properties of the Va-Mo-Co Mills, Franklinton, N. C. The plant, which contains some 40,000 sq. ft. of modern, brick, steel and glass daylight construction, had just recently discontinued production of bath towels and wash cloth. Burlington Mills Corp. plans a $30,000 addition to the Greensboro (N. C.) Weaving Co. It will measure 101 x 219 ft.

Celanese Corp. of America, New York, offered as of July 1 $35,000,000 in 3½% debentures, due 1962 at 99½ and interest. Proceeds were to redeem other debentures and loans and consolidate the corporation's funded debt into a single issue with maturities over 20 years.

Courtaulds (Canada) **Ltd.,** plan large addition to mill at East Cornwall, comprising several one and multi-story units, to be used for production for Canadian Government. Cost reported over $1,500,000, with machinery.

W. R. Goldsborough, Inc., Bethlehem, Pa.—On July 17 fire destroyed this silk-throwing plant with a loss of more than $100,000. The plant was not engaged in Government work, but only recently new machinery and equipment had been installed preparatory to handling Nylon for contemplated Government orders. Plans for rebuilding are under consideration.

Leon-Ferenbach Silk Co., Inc., Wilkes-Barre, Pa., has begun erection of one-story addition, 52 x 85 ft., for which general contract recently was let to O. J. Behrens & Son. Cost reported close to $45,000, with equipment.

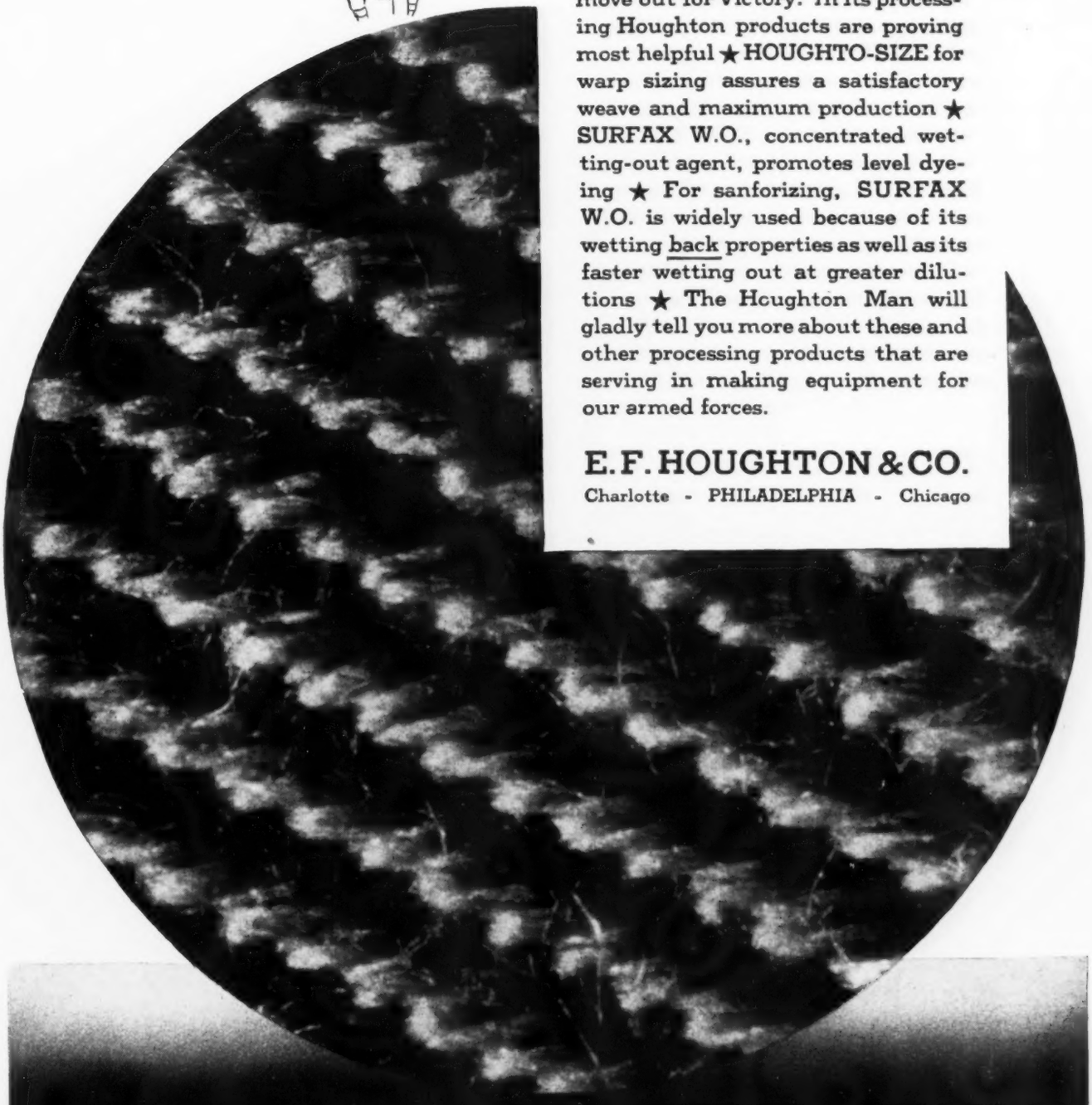
Luray (Va.) **Textile Corp.,** which is throwing yarns, chiefly Nylon, for parachute cloths, will construct an addition, to add 8,000 sq. ft. to their present quarters of about 30,000 sq. ft.

National Weaving Co., Lowell, N. C., has installed a complete system of Bahnson air

3 WAYS HOUGHTON HELPS IN THIS "WEAVE FOR WAR"

The army fabric you see magnified here 25 times is twill shirting, now found the world over as the Yanks move out for Victory. In its processing Houghton products are proving most helpful ★ HOUGHTO-SIZE for warp sizing assures a satisfactory weave and maximum production ★ SURFAX W.O., concentrated wetting-out agent, promotes level dyeing ★ For sanforizing, SURFAX W.O. is widely used because of its wetting back properties as well as its faster wetting out at greater dilutions ★ The Houghton Man will gladly tell you more about these and other processing products that are serving in making equipment for our armed forces.

E. F. HOUGHTON & CO.
Charlotte - PHILADELPHIA - Chicago



HOUGHTON'S TEXTILE PROCESSING OILS

Why Not? *Have Your Personal Accident and Sickness Insurance with . . .*

EASTERN COMMERCIAL TRAVELERS

Mutual Association • No Branch Offices

MASSACHUSETTS CO., INC. 1894

Insure Your Earnings . . . Protect All!

ACCIDENT POLICY PAYS		SICKNESS POLICY PAYS	
ACCIDENTAL DEATH $5,000-$10,000	WEEKLY DISABILITY $25.00-$50.00	$25.00 Per Week for Confining Sickness	$10.00 Per Week for Non-confining Sickness
Estimated Annual Cost $15		Estimated Annual Cost $20	

PAYS WHILE YOU ARE LAID UP
PAYS FROM THE FIRST DAY OF DISABILITY
48 YEARS OF UNFAILING SERVICE

No Policy Cancelled, Rates Increased, or Benefits Reduced on Account of Any Age!

SEND THE COUPON **TODAY**

John S. Whittemore, Sec.-Treas.
Eastern Commercial Travelers
80 Federal St., Boston

Without obligation, please send complete information and application for membership to

Name .....

Address .....

City ..... State .....

T.W.-42

HENRY K. BARNES CO.

SALEM, MASS.

LEATHER—APRONS

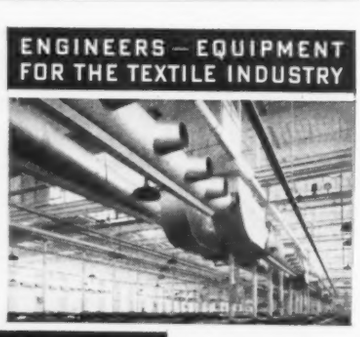
—Belting *For*

—Strapping *Defense*

AIR CONDITIONING

HUMIDIFYING
ATOMIZERS
UNIT SYSTEM
CENTRAL STATION
AIR FILTERS
HEATING
COOLING

ENGINEERS—EQUIPMENT FOR THE TEXTILE INDUSTRY



Bahnson System
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.

For 25 years we have been successfully solving the air-conditioning problems of the Textile Industry.

conditioning for the entire plant.

Piedmont Plush Mills, Greenville, S. C., have completed construction of a new one-story warehouse, costing over $15,000. J. E. Sirrine & Co., Greenville, prepared plans for building.

Sauquoit Silk Co. has conveyed its 4-story building at 133-137 W. Berkley St., Philadelphia, Pa., to Reba Lichtenstein for $35,000.

Tennessee-Eastman Corp., Kingsport, Tenn., has contracted with Government to operate a new mill to be constructed in Tennessee (exact location not announced) by Defense Plant Corp., Washington, D. C., a Federal agency. It will comprise a large one and multi-story processing and production building, and group of auxiliary structures, estimated to cost over $3,000,000. Erection starts soon.

U. S. Rayon Corp., Danielson, Conn., recently chartered (previously reported), has purchased former cotton mill of Wauregan-Quinbaug Mills, Inc., Brooklyn, Conn., inactive for several years, and will remodel and equip for new mill for rayon manufacture. Machinery previously used by Imperial Rayon Co., Gloucester City, N. J., has been acquired and will be installed in new plant, with acquisition of auxiliary equipment as required. It is proposed to have mill ready for operation in October. Imperial company, which discontinued operations last May when its plant was taken over by Government for navy yard expansion, is interested in new organization, and a number of mill executives will become identified with the Wauregan plant. David Schrage is president of new company, and J. A. Fratkin, secretary. Previously reported plan to export Imperial's machinery to Mexico was not accomplished.

Knitting Mill News

Beaunit Mills, Inc., Lowell, N. C., have installed 21 additional flat knitting machines.

Berton Hosiery Mills, Granite Falls, N. C., is now established in a newly constructed two-story mill building on the highway between Hickory and Granite Falls.

Cilley Hosiery Mills, Newton, N. C., sustained a fire loss recently, reported close to $8500. Machinery was only slightly damaged.

Columbia Knitting & Mfg. Co. is moving from 234 N. Broadway in Milwaukee to 1319 N. 3rd St., where it has leased about 11,000 sq. ft. of floor space.

Friedberger-Aaron Mfg. Co., Philadelphia—Equipment of this firm was sold at auction July 13 and 14 as the Government had taken over the buildings where it was located.

G. & H. Hosiery Mill, Hickory, N. C., has greatly expanded its looping department. A second story has been added to the one-story building and new machinery installed.

Glenover Hosiery Mills, Burlington, N. C., have installed 10 additional machines, bringing company total to 30.

Hewitt Hosiery Mills, Marion, N. C., is the new name of the former Blue Ridge Hosiery Mills, with A. C. Hewitt and A. C. Hewitt, Jr., proprietors. They are operating 56 machines on plain and fancy anklets and sport hose.

Holeproof Hosiery Co., Milwaukee, Wis., has awarded general contract to Dahlman Construction Co., Milwaukee, for improvements in mill at 404 West Fowler St.

Hoover Hosiery Co., Concord, N. C., has installed 14 seamless machines for women's hosiery.

C. D. Jessup & Co., Claremont, N. C., has installed a Fletcher extractor, 30-inch, with automatic timing.

Lasley Hosiery Mills, Burlington, N. C., have installed 25 additional circular knitting machines.

Massachusetts Knitting Mills, Rockdale, Mass., is affiliated with a new full-fashioned hosiery mill established in Laurens, S. C., in the building formerly occupied by Rogers Hosiery Mills. The new mill has five new 51-gauge machines. E. Kaplan is president.

McDonough (Ga.) Hosiery Mills, Inc., children's fancy anklets, has completed installation of a number of machines, which brings the total to 132.

McLaurin Hosiery Mills, Inc., Asheboro, N. C., acquired several months ago by Burlington Mills Corp., Greensboro, N. C., have work nearing completion on the installation of new and modern equipment, to replace former old-type machinery. The plant is being operated on half hose.

Melrose Hosiery Co., High Point, N. C., suffered the collapse of its roof. Fortunately, the collapse of the 150-foot roof came during a change in shifts when most of the 100 employees of the firm were not in the building.

Quaker Hosiery Co., Inc., Philadelphia, Pa., has leased

DOWICIDE

INDUSTRIAL GERMICIDES AND FUNGICIDES

CANVAS PRODUCTS

MADE *Mold* RESISTANT

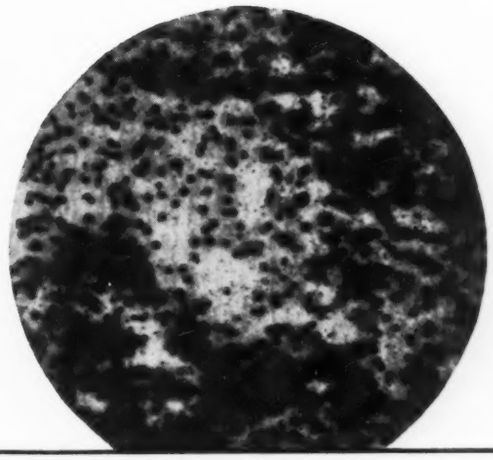
PROPER PROTECTION for canvas materials is of utmost importance today. To help do this job, Dow offers a group of chlorinated phenol derivatives, sold under the trade name DOWICIDE*. When incorporated in compositions used for finishing, these materials achieve effective protection against rot and mildew.

DOWICIDE products are also used in a new anti-mildew treatment known as Napenize. This process assures canvas products a greater degree of protection than usually attainable. The physical affinity of the chemical compound for the cloth makes this feature possible—thus giving canvas products longer life.

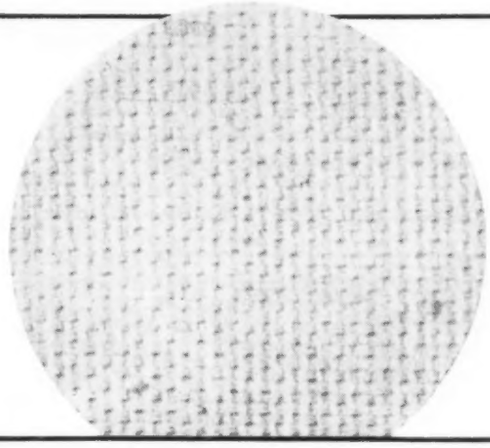
For complete information on DOWICIDE products and the Napenize Process, write to Dow today.

*Trade Mark Reg. U.S. Pat. Off.

DOW



UNTREATED Sections of untreated 8-oz. duck photographed after 2 months in humidity chamber. Mold Resistance—Poor.

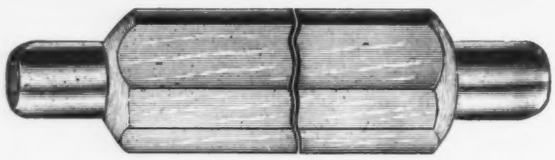


TREATED Section of 8-oz. duck treated by the Napenize Process photographed after 2 months in humidity chamber. Mold Resistance—Excellent.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • St. Louis • Chicago • Houston • San Francisco • Los Angeles • Seattle

WHITMAN YARNS
WORSTED • COTTON • SPUN RAYON
ARLINGTON MILLS
LAWRENCE, MASS.
•
MONOMAC SPINNING CO.
LAWRENCE, MASS.
•
NONQUITT MILLS
NEW BEDFORD, MASS.
WILLIAM WHITMAN COMPANY, INC.
NEW YORK BOSTON PHILADELPHIA CHARLOTTE


DYE STICKS
Since 1900 we have made high quality true-form oven-seasoned dye sticks for all standard machines. We can fill your needs today to meet any requirement. Write
FRANK BAILEY Cedar Brook, N. J.

NOVELTY-YARNS
For
WEAVERS-KNITTERS
MONTGOMERY
WINDSOR LOCKS, CONN.
Designers and Spinners of Novelty Yarns

20,000 sq. ft. of floor space at N. W. Cor. 23rd and Allegheny Avenue.

Telford (Tenn.) **Knitting Mills** are now operating with 100 Banner machines on men's 200-needle half hose. The company operates 10 ribbers and 10 loopers.

Unity Knitting Co., Union, S. C., recently acquired by Joseph A. Conrad (previously reported) will concentrate on production of rayon hosiery for women.

Wil-Tex Hosiery Products Corp., Villa Rica, Ga., plans an expansion program. The company recently purchased an adjoining building for this purpose.

Processing Plant News

Apponaug, R. I.—Negotiations are under way for purchase of the stock of the Apponaug Co. by a group understood to include interests close to Malcolm G. Chase, of Providence, R. I., and Jacob Ziskind, of Fall River, Mass.

Aspinook Corp., Jewett City, N. J., has concluded negotiations with Beacon Industrial Corp., Fall River, Mass., for purchase of Jones Division of Arnold Print Works, Adams, Mass., which it has been operating under lease for several weeks (previously reported). Plant has 12 printing machines. Aspinook has organized a new subsidiary under Delaware laws, with capital of $350,000, known as Arnold Print Works, Inc., and which will operate Adams plant in future, continuing output on high-styled drapery fabrics as heretofore. Beacon company, which recently purchased entire Arnold property, is dismantling mill at North Adams, Mass., which is not included in Aspinook purchase.

Cranston (R. I.) **Print Works** sold the three cottages and 76 two-family houses in its village at auction on June 27.

Grenada (Miss.) **Industries, Inc.,** are completing a one-story addition, 80 x 180 ft. to the hosiery mill to be equipped for a dyeing and finishing department. Cost will be about $130,000, with machinery.

Hamilton Print Works, Inc., Paterson, N. J., recently chartered with capital of 100 shares, care of Abram I. Bluestein, 126 Market St., Paterson, attorney and representative, plans early operation of a print, dye and finish mill.

Liberty Dye Works, Inc., Reading, Pa., have just been granted a permit for an addition and alterations to their plant to cost $3,750. John C. Strause is the contractor.

Rock Hill (S. C.) **Printing & Finishing Co.,** which was forced to curtail production some months ago because of slack business, has called several hundred employees back to work and will soon be on a capacity basis.

Standard - Coosa - Thatcher Co., Chattanooga, Tenn., plans one-story addition to mill, reported to cost close to $40,000, with equipment.

United Piece Dye Works—Machinery and equipment at mill of Paterson, N. J., skein dyeing department of United Piece Dye Works, were disposed of at public sale for $68,000 and plant is being dismantled. United Piece Dye Works reports net loss for 1941 of $223,040, compared with net loss of $467,745 in 1940. Operations for 1941 resulted in profit of $77,409 before deduction of interest, depreciation and idle property expense. Operations for first five months of 1942 resulted in net profit of $89,000 compared with $19,252 for first five months of 1941.

John E. Yorgey, Reading, Pa., dye works, have been granted a permit for erection of a plant addition to cost $3,000. H. T. Horst Construction Co. are the contractors.

Miscellaneous Mill News

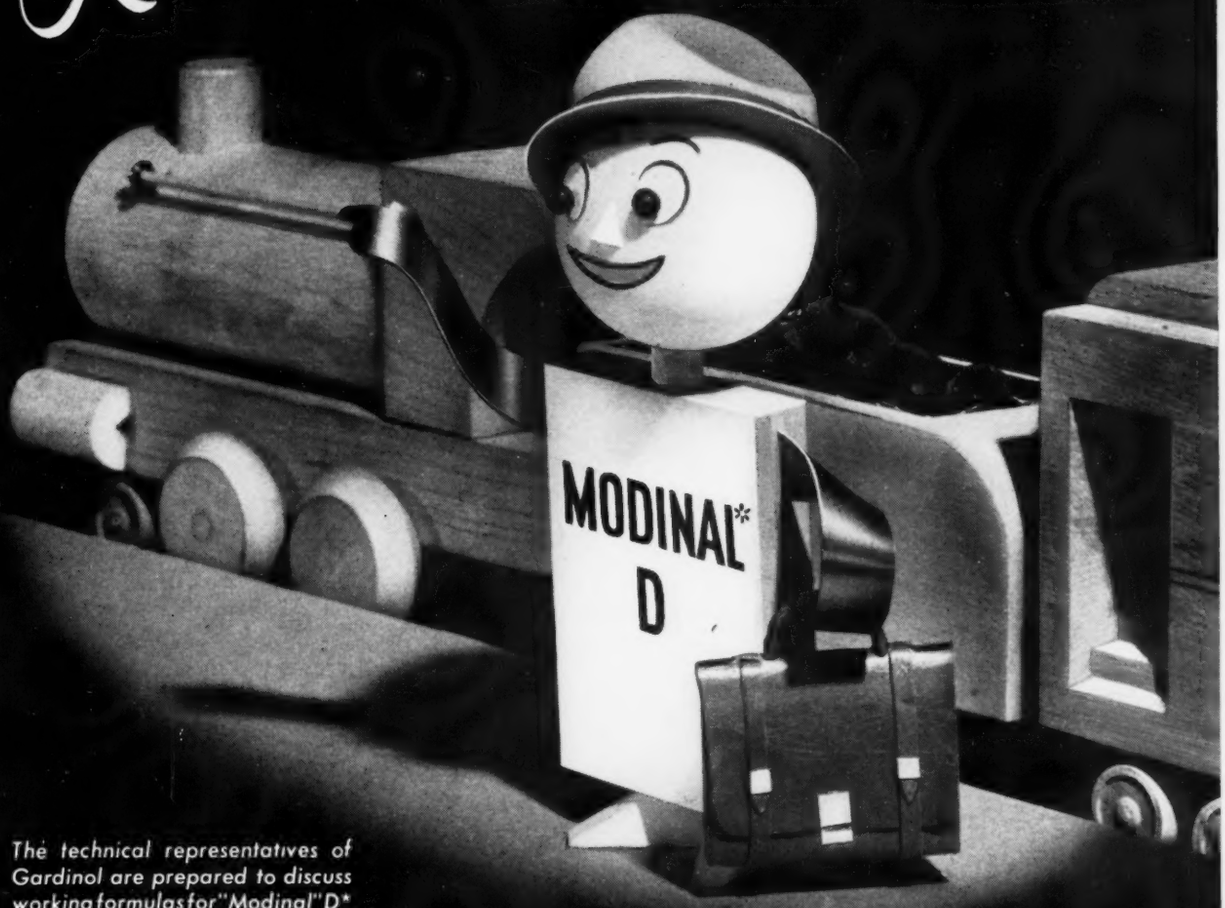
American Core-Twine Co., formerly of Roxbury, Boston, Mass., will concentrate production at mill in Salmon Falls, N. H. Main offices will be at Portsmouth, N. H.

General Fiber Products Corp., Los Angeles, Calif., recently chartered, care of Herman L. Joachim, Chamber of Commerce Bldg., Los Angeles, is completing plans for new mill near Kingman, Ariz., for production of textile fibers, suitable for manufacture of rope and kindred products. Leaves of the yucca plant, predominating in that area, will be used for raw material. Plant will consist of two or more main one-story buildings, for extraction and general processing, with adjoining smaller structures for miscellaneous service, and is reported to cost in excess of $250,000, including machinery. Financing has been arranged through Defense Plant Corp., Washington, D. C., a Federal agency. Company proposes to construct two additional mills of same character following completion of first.

Werthan Bag Corp., Nashville, Tenn., has begun the operation of its own printing department, with A. S. Thomas as general superintendent. The initial set-up was two printing machines.

Ready to go places

ON DETERGENCY PROBLEMS?



The technical representatives of Gardinol are prepared to discuss working formulas for "Modinal" D now used to meet problems such as the following:*

Dyeing with vat colors
Scouring reworked wool raw stocks
Scouring & dyeing rayon mixtures
Kier boiling heavy duck
Jig dyeing sulfur colors
Dyeing cotton & rayon hosiery
Scouring low-grade cottons
Refinishing harsh goods
Lubricants for mixtures
Scouring fulled fabrics
Soaping off naphthols
Scouring low-grade woolens

● There's no priority on progress in "know-how." Have our technical representatives help you keep abreast of developments in the use of synthetic detergents. The products of the Gardinol Corporation have set standards in their field, and the application formulas have been tested and approved by leading dyers and finishers.

* **"MODINAL"** *is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulphates.*

GARDINOL CORPORATION, GENERAL OFFICES, WILMINGTON, DEL.

SALES AGENTS: Procter & Gamble, Cincinnati, Ohio · E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware

To make the best still better—Protective Coatings

You selected Aluminum Alloy plant equipment because it promised long life, better performance and better products. It is fulfilling those promises in every way. Although it was once good economy on many jobs to permit normal depreciation, and then replace the parts, wartime conditions now require that you get every possible hour of service out of the original equipment.

Chemically-resistant, baked resin coatings have proved very effective and have prolonged the life of Aluminum where it is subjected to severe attack. Thousands of parts, so coated, are in service today. Because these coatings are suited to conditions encountered on each job, maximum life for the Aluminum parts is assured.

Protective oxide coatings offer another means of making Aluminum Alloy spools, pirns, bobbin heads, separator blades, and other textile equipment parts last longer. Oxide finishes are produced by chemical and electrolytic treatment. Of these, the Alumilite* finish, formed on Aluminum by anodic treatment, is among the most durable.

Are you wondering how to make irreplaceable Aluminum equipment last longer? Alcoa engineers stand ready to serve you. ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh, Penna.

Process patented

ALCOA ALCOA ALUMINUM REG. U. S. PAT. OFF. **ALUMINUM**

YOU CAN DO SOMETHING ABOUT WORN OUT SASH!

— and improve plant operation at the same time with *PC Glass Blocks*

There's no need to wait. Construction Conservation Order L-41 permits the installation of PC Glass Blocks where sash replacement is necessary. Since the purpose of Order L-41 is to conserve critical materials, the replacement of worn-out steel sash with PC Glass Blocks performs a service to the nation in conserving metal. In addition, this order allows construction other than maintenance up to $5,000 per building. And note this—there is no shortage of PC Glass Blocks. We can fill your orders promptly—and fully.

Improve Plant Operation. Long before metal shortages, many plant owners were specifying PC Glass Blocks for both sash replacement and new construction. For the unique ability of glass blocks to combine high light transmission with insulation makes them ideal wherever better temperature control, better humidity control, reduction of condensation, lower maintenance, improved privacy or better daylighting are advantageous.

Mail the coupon below for our free book that shows how plants in many branches of industry have used PC Glass Blocks successfully. And, if you wish, our representative will help you plan your construction to avoid use of hard-to-get priority materials. There's no cost or obligation involved.

★ ★ ★ ★ ★ ★ ★ ★

NO PRIORITY MATERIALS REQUIRED

PC Glass Block Panels can be installed without priority materials—by a regular mason, using ordinary tools.

"PITTSBURGH" stands for Quality Glass

PITTSBURGH PC CORNING

GLASS BLOCKS

Distributed by

PITTSBURGH PLATE GLASS COMPANY

and by W. P. Fuller & Co. on the Pacific Coast

Pittsburgh Corning Corporation
2108-2 Grant Building, Pittsburgh, Pa.

Please send me your free, illustrated book that shows how PC Glass Blocks have been used successfully in industrial plants.

Name .....

Address .....

City ..... State .....

FEWER BREAKDOWNS NOW...

OF MACHINES EQUIPPED WITH THESE...

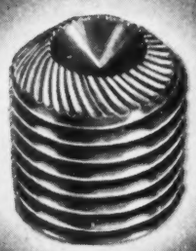
UNBRAKO

REG. U. S. PAT. OFF.

SELF-LOCKING HOLLOW SET SCREWS

Just use "Unbrako" Self-Lockers and time wasting breakdowns and maintenance are avoided because the knurled points dig in and refuse to let go regardless of vibration. Yet if adjustments are necessary, they can be removed in a jiffy . . . and you can use them again and again. Insure against trouble—investigate and use "Unbrako" Self-Locking Set Screws.

Knurling of Socket Screws originated with "Unbrako" years ago.



Send for our complete "Unbrako" Catalog.

STANDARD PRESSED STEEL · BOX 571 JENKINTOWN · PENNA.

BRANCHES: BOSTON, DETROIT, INDIANAPOLIS, CHICAGO, ST. LOUIS, SAN FRANCISCO

THEY'RE TOUGH... THESE 125 lb. GATE VALVES

Fig. 2125
125 lb. S.P.
Bronze Double Disc Gate
Rising Stem

Fig. 2129
125 lb. S.P.
Bronze Wedge Disc Gate
Non-rising Stem

And they're proving it in countless plants in all industries. The extra strength built into these tough bronze valves comes in good stead in meeting the severe demands of continuous operation. Now more than ever they are proving to their users that it pays in the end to buy good valves first.

Figs. 2125 and 2129 are outstanding examples of the ruggedness and dependability that are inherent qualities in all Lunkenheimer products.

ESTABLISHED 1862
THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U. S. A.
NEW YORK CHICAGO
BOSTON PHILADELPHIA
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

Since virtually all materials used in the manufacture of valves are on the list of critical materials, valve users are urged to furnish the highest possible preference ratings and proper "end use" Allocation Classification Symbols on their orders. This will be of mutual helpfulness.

LUNKENHEIMER VALVES

THESE "HAND-IN-GLOVE" ADVANTAGES

Give You a Better Roof!

UNDIVIDED RESPONSIBILITY INSURES SATISFACTION WITH CELOTEX VAPOR-SEAL ROOF INSULATION AND CELOTEX BONDED BUILT-UP ROOFS

WHERE the same manufacturer supplies material for both parts of the job—the built-up roof *and* the roof insulation—the result is naturally better. Each product is developed and applied to obtain the utmost in protection and efficiency from the other.

That's why it's important to use Celotex Bonded Built-Up Roofs *and* Celotex Vapor-seal Roof Insulation. Both are products of the same responsible manufacturer! Ten, fifteen, or twenty year Celotex Bonded Built-Up Roofs are available.

And Celotex Vapor-seal Roof Insulation offers (1) a thermal conductivity of only 0.30, (2) an *American* product which is readily available NOW, and (3) the experience of a manufacturer who has produced more structural insulation than any other in the business! End the hazards of a "piece-work assembly" job. Protect yourself with Celotex centralized responsibility!

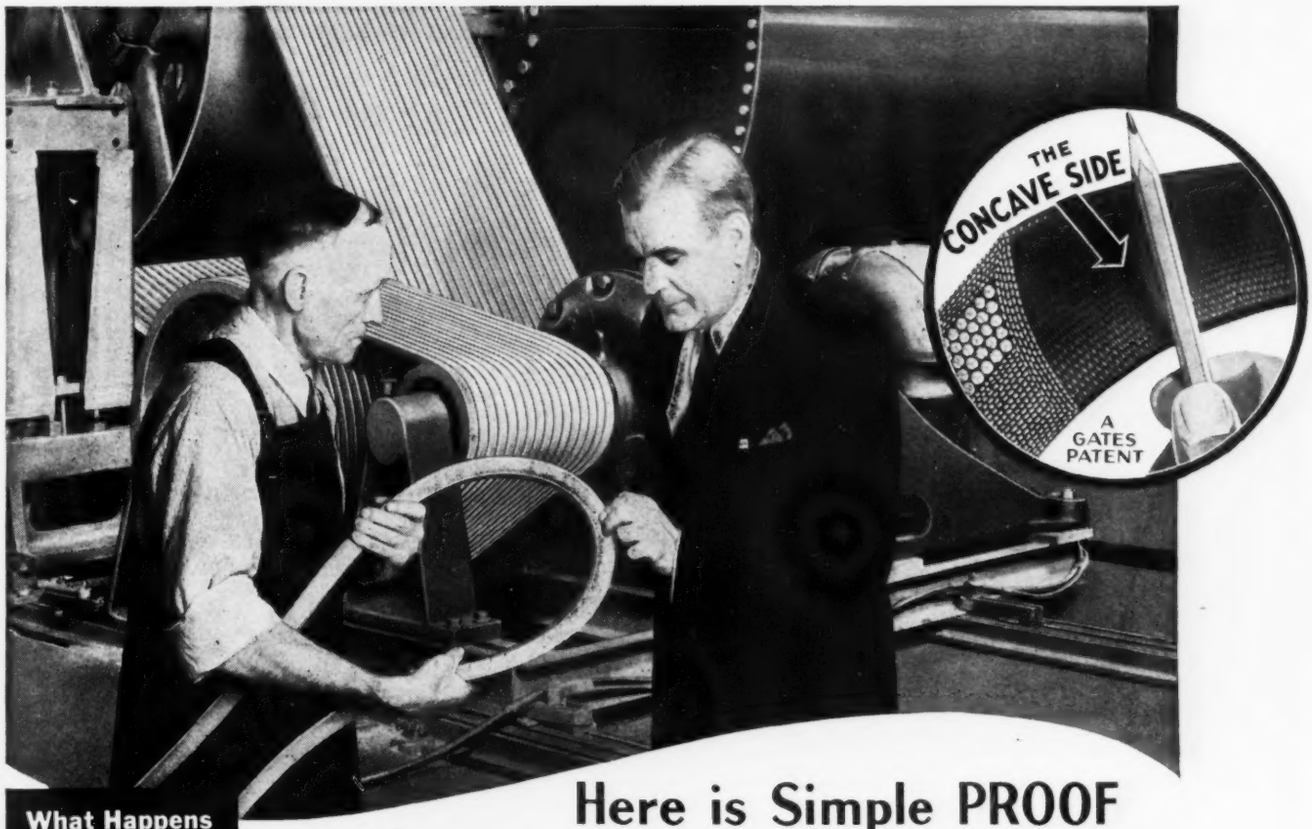
CELOTEX

REG. U. S. PAT. OFF.

BUILDING PRODUCTS

BONDED BUILT-UP ROOFS **VAPOR-SEAL ROOF INSULATION**

THE CELOTEX CORPORATION • CHICAGO



What Happens When a V-Belt Bends

FIG. 1

FIG. 2

Here is Simple PROOF *of a* REAL SAVING in BELTS, in RUBBER, in POWER

In two minutes you can prove for yourself a simple fact that will lengthen belt wear and reduce operating costs.

Pick up any V-belt. Bend it as it bends when it goes around its pulley. As the belt bends, grip the sidewalls with your fingers. You will feel the *sides* of the belt *change shape.* If the belt has *straight* sides, the bending will force those sides to bulge out—as shown in Figure 1 (on the left).

Now make this same test with a belt that is built with the patented Concave side. Again you will feel the sides change shape but with this *important difference:*—the Concave side becomes perfectly straight. This belt, when bent, takes a shape that exactly fits its sheave groove. (See Figure 2).

Here are the savings. First—no out-bulge of the sides means uniform sidewall wear—a saving in belts for you, a saving in rubber for the Nation. Second—the full side of the belt uniformly grips the sheave wall. This means heavier loads without slippage—a saving in belt wear and also in power!

Only belts built by Gates are built with the Concave side, a Gates patent.

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

GATES VULCO ROPE DRIVES

Chicago, Ill. 549 West Washington
Dallas, Tex. 2213 Griffin Street
New York City 215-219 Fourth Avenue
Birmingham, Ala. 405 Liberty National Life Bldg
Los Angeles, Cal. 2240 East Washington Blvd.
Charlotte, N. Carolina 507 Builders' Bldg.
Greenville, S. Carolina 201 Woodside Bldg. Annex
Atlanta, Georgia 738 C. & S. Natl. Bk. Bldg.

STALEY'S
TEXTILE STARCHES

Staley Manufactures a complete line of unmodified and modified corn starches. For any textile requirement the answer is Staley's.

Staley's
CORN AND SOY BEAN PRODUCTS

A. E. STALEY MANUFACTURING COMPANY
DECATUR ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ILLINOIS

MADE in sizes for all counts and kinds of yarns. Co-operate with us in our desire to serve you quickly and efficiently by giving your highest priority rating on all orders and by permitting our representatives to aid and advise you in any spinning problems which may arise.

The Dary Ring Traveler Co.
Taunton, Mass.

JOHN E. HUMPHRIES
Box 843 Greenville, S. C.
JOHN H. O'NEILL
Box 720 Atlanta, Ga.
H. REID LOCKMAN
Box 515 Spartanburg, S. C.

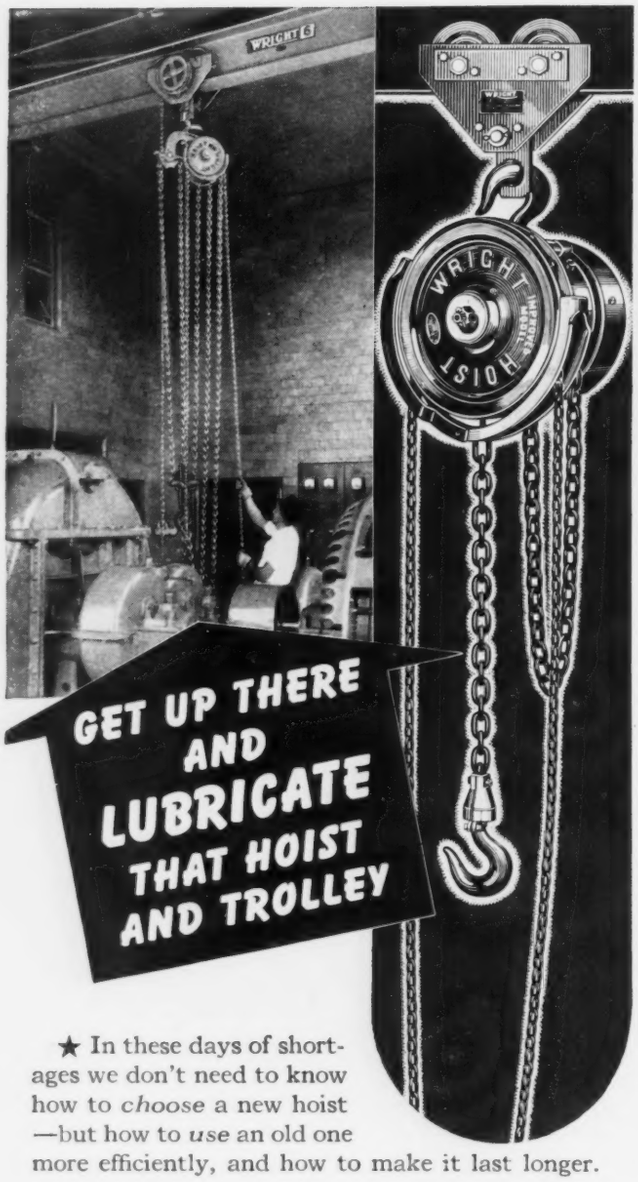
PEQUOT
REG. U.S. PAT. OFF.
SHEETS AND PILLOW CASES

The Most Popular Sheets in America

Made Stronger—Wear Longer
Sell Faster

PEQUOT MILLS
Salem, Mass.

Product Quality need not Suffer
—if you use tough
SHELL TEXTILIS OILS
QUALITY textile products are more vital than ever today... production must be rushed. But it isn't necessary to sacrifice product quality for speed. Shell Textilis Oils, designed specifically for each type of textile-machine lubrication, will help you get maximum production at maximum speed.
• • •
Call in your Shell man today. Let him show you how to get top performance out of your machines, cut down on delays, and still maintain the high quality of your products.
SHELL



GET UP THERE AND LUBRICATE THAT HOIST AND TROLLEY

★ In these days of shortages we don't need to know how to *choose* a new hoist —but how to *use* an old one more efficiently, and how to make it last longer.

So—get busy with the grease gun! Where properly lubricated and maintained, many **WRIGHT HOISTS** have given constant, trouble-free service for 20 and 25 years. We have known other hoists to be so badly abused they were ruined in *two* years. Your **WRIGHT HOIST** will last indefinitely if you treat it right.

If your hoist is under constant use, as on assembly line work, inspect and lubricate it every month. If it is subjected to ordinary occasional service, then perhaps lubrication every three months and inspection every six months is sufficient. But keep your load chain well lubricated at all times. A lubricated chain will *far* outlast a dry chain.

Conserve steel and maintain production schedules by regular inspection and lubrication.

WRIGHT MANUFACTURING DIVISION
YORK, PA., CHICAGO, SAN FRANCISCO, NEW YORK
In Business for Your Safety

AMERICAN CHAIN & CABLE COMPANY, INC.
BRIDGEPORT, CONNECTICUT

★ ★ ★

a VITAL FACTOR in the battle for production

• SPEED ADJUSTABILITY
Regulate the speed of your machines by the simple turn of a Lewellen handwheel *without stopping the machine*. Have the *right speed at the right time!*

• PRODUCT UNIFORMITY
Actually the lack of uniformity in materials and varying conditions in plants demand speed adjustability of production machines for uniform, quality work.

• MINIMUM SPOILAGE
Adjust machine speeds to equal the skill of operators—change in materials, and costly rejects are reduced to a minimum.

• MAXIMUM MACHINE OUTPUT
Check the rated capacities of your machines with actual production output. Often what a machine can do is simply a matter of its operation at the correct speed.

• UNINTERRUPTED SERVICE
Avoid the waste of time to change belts and gears. Keep production flowing smoothly.

• FACTORY SPACE SAVED
Lewellen Variable Speed Transmissions and Motor Pulleys are compact—modern in design. Often valuable space is saved by their use.

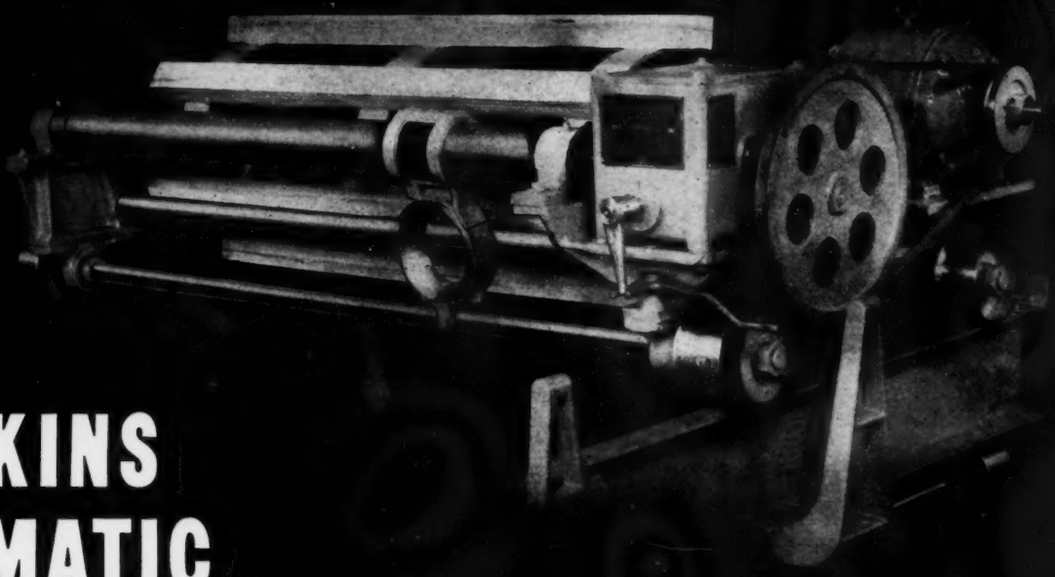
● This is no time to allow fixed-speed machines to bottleneck your production! Important advantages of Lewellen Variable Speed Control are listed above. Consider these advantages with respect to your production. Think of accurately maintaining speeds even to a fraction of an r.p.m. . . . We have no other interests than to help you solve your speed control problems. Now that these problems are so vital, we urge you to let us help you. No obligation.

LEWELLEN MANUFACTURING COMPANY, COLUMBUS, INDIANA

LEWELLEN

Variable Speed { TRASMISSIONS / MOTOR PULLEYS

★ Lewellen knows speed control



PERKINS AUTOMATIC BIN PILERS

PATENTED

You cannot afford to pile by hand

B. F. PERKINS & SON, Inc.

ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.

MODERN DRYING
BY
CARBOMATIC*
RADIANT HEAT

Is Approved and Used by Leading Textile Mills and Prominent American Heat Engineers

★

Experience has proven that it will

1. Penetrate and dry UNIFORMLY.
2. Materially SPEED UP output.
3. IMPROVE the QUALITY of the finished product.
4. ECONOMIZE production costs on tenter frames, palmers, slashers, textile printing drying, singeing, loop-dryers, etc.
5. Develop a NEW TYPE of DRYING in Government approved pigmentation compounds, and mildew proofing.
6. Allow FLEXIBLE TEMPERATURE CONTROL—delivering any heat intensity required.

★

No Proposals Made Without Results Guaranteed

★

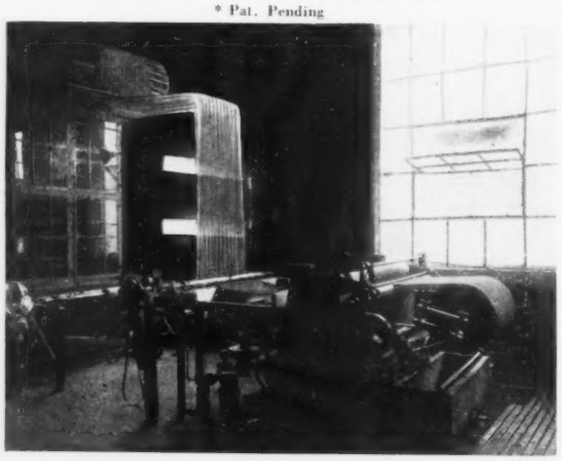
Send for representative. New Brochure now ready. Address Dept. T-8.

CARBOMATIC CORP.

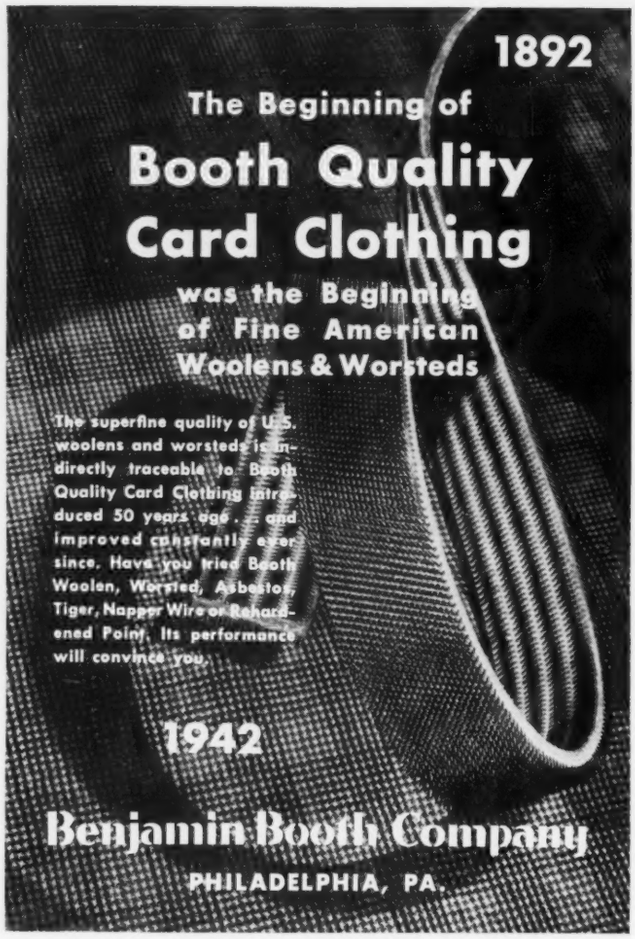
Pioneers and Specialists in Infra-Red Ray Textile Drying.

General Motors Building—1775 Broadway
New York, N. Y. Circle 6-1495
FACTORY: New Haven, Conn.

* Pat. Pending

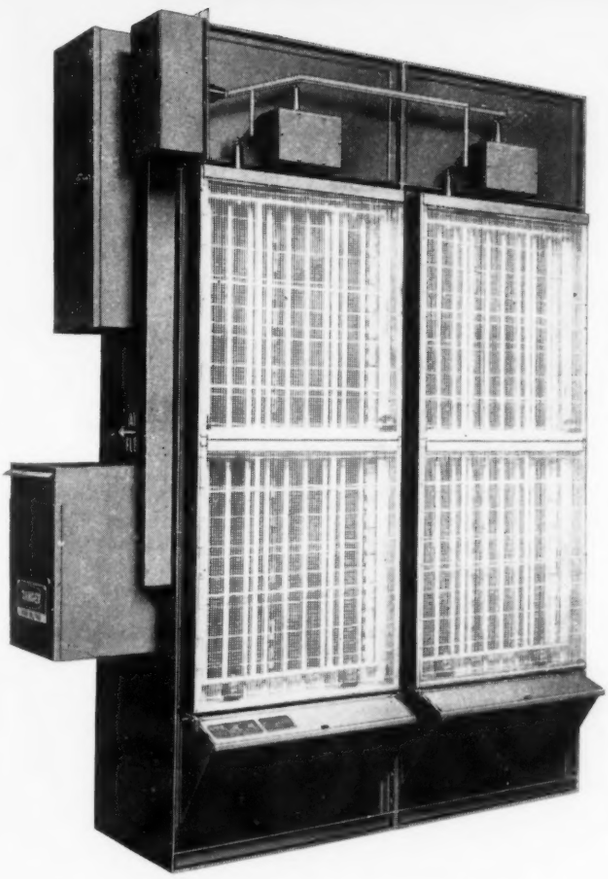


Carbomatic RADIANT HEAT INFRA-RED RAY DRYING UNIT installed at Progressive Silk Finishing Co. at Hoboken, N. J., where it has doubled production capacity


1892
The Beginning of
Booth Quality
Card Clothing
was the Beginning
of Fine American
Woolens & Worsteds
The superfine quality of U.S. woolens and worsteds is indirectly traceable to Booth Quality Card Clothing introduced 50 years ago . . . and improved constantly ever since. Have you tried Booth Woolen, Worsted, Asbestos, Tiger, Napper Wire or Reharpened Point. Its performance will convince you.
1942
Benjamin Booth Company
PHILADELPHIA, PA.

Sterling
Ring Travelers
REGULATIONS
Pass along with your orders the complete and correct information required. This will show just where the critical metals are mostly needed, it will assist us in getting our supplies and you will be able to get Travelers more quickly.
Southern Representatives
GEORGE W. WALKER
Box 1894 Greenville, S. C.
D. J. QUILLEN
Box 413 Spartanburg, S. C.
SOUTHWEST SUPPLY CO.
Box 236 Itasca, Texas
STERLING RING TRAVELER CO.
FALL RIVER, MASS.

WHERE *Clean Air* IS A MUST
The ELECTRO-MATIC *Filter* *is* FIRST



As a result of the universal recognition which clean air has today as an industrial necessity to speed up production, lessen rejects due to spoilage, and increase workers' efficiency, American Air Filters have been installed in a vast majority of war production plants.

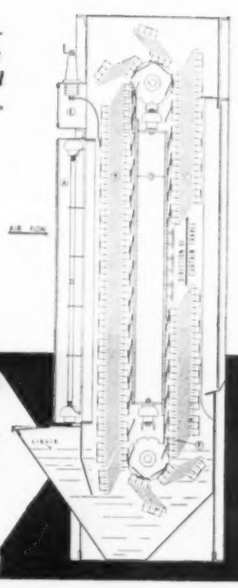
In a single textile mill, losses in time and money due to smudging, streaking, and discoloration by dust, soot, or smoke can run into thousands of dollars every year unless the air is kept clean.

AAF Engineers have made special studies of textile mill dust problems and can recommend dust collecting equipment and engineer systems to take care of any unusual conditions that might be present. Ask your air conditioning consultants to investigate some recent AAF installations for you, or write for the address of our nearest engineer.

AMERICAN AIR FILTER CO., INC.
INCORPORATED
304 CENTRAL AVENUE, LOUISVILLE, KY.
In Canada: Darling Bros., Ltd., Montreal, P.Q.

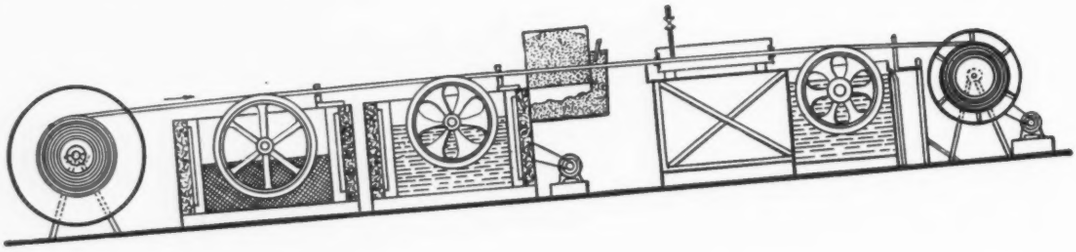
Write for Information on the Electro-Matic Filter which Collects the Finest Air Borne Particles Electrically and Cleans Itself as it Cleans the Air.

Shown at the right is a cross-section of the Electro-Matic filter showing how the continuous filter curtain is washed free of collected dust, soot and smoke particles automatically. This exclusive self-cleaning feature makes shut-downs for cleaning unnecessary.


Filter curtain passes through viscous bath releasing impinged dust and smoke particles which settle at bottom of reservoir.

ELECTRO-MATIC *Self Cleaning* ELECTRO-STATIC AIR FILTER

WAR
is engineered scrap



This war machine was built from an old pulley, the rear wheels of a truck and odds and ends of sheet steel.

It will never fire a projectile nor drop a bomb. But if our enemies really understood America it would frighten them.

The function of this scrappy gadget is to renew the weather-proofing on electric power wire . . . wire that would otherwise have to be junked.

▶ But war teaches us to look beyond machines to the hearts and minds of the men who make them.

In such perspective the device shown above takes on deep significance. It becomes a mechanical parable on the ingenuity of men whose job it is to keep electric power flowing to the vital war industries, regardless of shortages of copper, steel, rubber, aluminum.

▶ There are hundreds of such parables in every war-converted industry. Here are just a few from our great electric power plants:

. . . tons of bolts are being saved by a new method of rigging crossarms on electric poles.

. . . a southern generating station found its dam weakening. To keep the power flowing, holes were bored through the concrete and the dam bolted to bedrock!

. . . to avoid a shutdown, a middle-Atlantic utility worked out a method of stopping leaks around the giant valves controlling its water supply by mixing *sawdust* with the water. It worked.

. . . a western company bought old suspension cables from the wrecked Tacoma Bridge, untwisted them and used the metal as concrete reinforcement.

So goes the saga of electric power, as the industry does its share in the common task . . . With much of its trained man-power in the services, with priorities available only in the most urgent cases, the American utilities are showing the stuff American management and labor are made of.

But where are the stories of plants rushed into being almost overnight to supply electric energy?

As an American, you can thank your lucky stars such stories are few. Generating plants and power lines take years to build. For instance, our country's power equipment at the start of the war represented an investment of more than the present combined cost of the two-ocean navy and lend-lease expenditures.

War conversion for this vigorous industry was almost as simple as pushing the light switch on your reading lamp. The power was there because energetic managements had created it in the normal course of American life.

Some rush construction was necessary, but the electric power industry was first in war *because* it had been first in peace.

▶ The story goes back to the depression years. The utilities were the first to shake off the doldrums. By 1935, they had already passed 1929 levels.

. . . By the time the war broke out in Europe, America's giant electrical capacity surpassed that of any combination of potential enemies.

. . . It has grown since then, with 3½ million kw. capacity scheduled to be added in 1942. This year, the industry also will spend 150 million dollars on maintenance alone.

▶ Because of these private expenditures, because the electrical companies started years ago to sell women on the convenience of electrical home appliances . . . and because the industry has always built in advance of demand, it was ready for either peace or war, with the world's greatest system of power production and distribution.

★ ★ ★

In recognition of the miracle of war production—accomplished through the cooperation of American management and labor with the W. P. B. . . . this advertisement is published by the McGraw-Hill Network of Industrial Communication.

McGRAW-HILL PUBLISHING COMPANY, Inc.

330 WEST 42nd STREET · NEW YORK

WITH A POSTSCRIPT

FOR BUSINESS EXECUTIVES

PERHAPS you saw the advertisement on the opposite page, in the newspapers.

Did you notice those five examples of the way in which maintenance men are meeting the problem of war operation?

That's what this page is about.

If one public utility maintenance man works out a new way of reconditioning wire, his idea becomes really valuable to the country when all maintenance men with a similar problem find out how he did it.

If one man experiments with silver and bismuth as a substitute for tin solder, that becomes great news for a man who needs tin solder and can't get it.

That's why industry after industry has been able to meet the war production challenge . . . by swapping ideas.

▶ In industry, this idea swapping is done mostly through the editorial and advertising pages of the industrial press.

McGraw-Hill, for instance, keeps 153 editors and 725 engineer-correspondents busy digging up new methods of doing things.

Industrial advertisers, too, often send men into the field to discover new ways of making their products do more work, or last longer.

When such practical editorial and advertising information is distributed to the readers of the 23 McGraw-Hill publications, the value of each idea is multiplied by thousands.

So valuable is this interchange of technical information that many companies are surveying their organizations to make sure that the supply of Industrial Magazines is adequate.

▶ If you would like suggestions as to how to conduct such a survey, just write to Reading Counselor Department, McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York.

★ ★ ★

THE McGRAW-HILL NETWORK

More than 1,000,000 of the executives, designers and production men, who give America her world supremacy in technical "know-how", use the editorial and advertising content of the 23 McGraw-Hill publications as a means of exchanging ideas.

THE McGRAW-HILL BOOKS

Technical, engineering and business books for colleges, schools, and for business and industrial use.

McGRAW-HILL PUBLISHING COMPANY, INC.
330 WEST 42nd STREET • NEW YORK

THE McGRAW-HILL NETWORK OF INDUSTRIAL PUBLICATIONS

American Machinist
Aviation
Bus Transportation
Business Week
Chemical & Metallurgical Engineering
Coal Age
Construction Methods
Electrical Contracting
Electrical Merchandising
Electrical West
Electrical World
Electronics
Engineering & Mining Journal
E. & M. J. Metal and Mineral Markets
Engineering News-Record
Factory Management & Maintenance
Food Industries
Mill Supplies
Power
Product Engineering
Textile World
Transit Journal
Wholesaler's Salesman

Let a MILL MAN tell you about easy-starting rings!

In the exact words of a South Carolina superintendent's letter:

- - - "orders we had taken demanded the best of spinning and I needed new rings to get it — but it was summer weather. I was persuaded by your man to try a frame of DIAMOND FINISH rings. They started so well that I went right ahead with my replacement program amounting to several thousand rings."

The above instance is but one of hundreds where rings with the superb "DIAMOND FINISH have proven themselves to be easy-starting under all sorts of conditions. Install these famous rings ANY time, ANY weather, with complete confidence—they are the Easy-starting Champions!

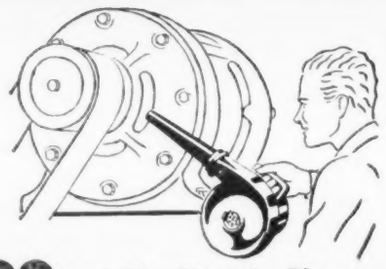
WHITINSVILLE (MASS.) SPINNING RING CO.

DIAMOND FINISH

Makers of Spinning and Twister Rings since 1873

Southern Representative H. ROSS BROCK, 8 Vanney St., Greenville, S. C. Tel. 2824

Blow Out Dust — Keep Motors and Machinery Clean with



TORNADO Portable Electric Blowers

PREVENT motor burnouts, overheating and shutdowns. Keep motors and machinery clean. Blow out dust, dirt, lint, chips, etc. with the powerful, portable TORNADO Electric Blower. Quickly pays for itself in cutting repair and replacement costs.

Write for details and FREE Trial Offer

Request details on Low-Priced Air-Raid Sirens

BREUER ELECTRIC MFG. CO. 5086 Ravenswood Ave. CHICAGO, ILLINOIS

THOS. WOLSTENHOLME SONS & CO. INC.

3300 Frankford Avenue

Philadelphia, Pa.

Yarns for all purposes

French and English Spun Worsted

French Spun Zephyr

French Spun Merino

Representatives:—

BOSTON—Perkins & Boland, Inc., 99 Chauncy St.
LOS ANGELES—Arthur Bone, 4436 Worth St.
CHICAGO—C. F. Peffer, 222 W. Adams St.

COTTON WARPS

Cotton Yarn and Warps . . Single or Ply . . White or Colored . . Carded . . Combed

Novelty yarns—of cotton, worsted, wool, mohair, rayon — in all fashionable combinations and effects and in many original effects. Write for samples.

Sell Direct

Dana Warp Mills . . Westbrook, Maine

MURDOCK Bobbin Holders

Two exclusive Features Affording Long Life:

1. Automatic-bobbin holders equipped with holding wings electrically hardened all the way through.

2. Holding wings hold positively in position by skeleton washer—no sliding around.

We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins. Holders for all types of mules, frames, twisters, and winders.

MURDOCK & GEB CO., Franklin, Mass.

Manufacturers of Bobbin Holders for Over Fifty Years

THE OLDEST AND LARGEST

MANUFACTURER OF

Ring Spinning and Twister Travelers

In the UNITED STATES

American • Hicks • Wilson

United States Standard Wentworth Double Duty and Gravity Travelers

MAKE STRONGER YARN

National-Etartnep Finish
A New Chemical Treatment

Write Us

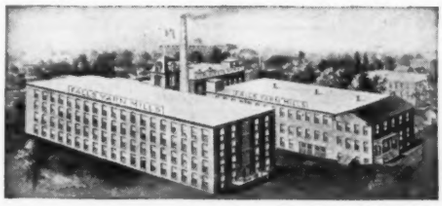
National Ring Traveler Company

354 Pine St., Pawtucket, R. I.
PHILIP C. WENTWORTH, *Treas.*
P.O. Box 1565. Providence, R. I. Charlotte, N. C.

FALLS YARN MILLS

WOONSOCKET, R. I.

Incorporated 1904



Fine Woolen and Specialty Yarns For Weaving and Knitting

SELL DIRECT

NEW YORK
Stanley Porter
257—4th Ave.

PHILADELPHIA
Harold R. Shirley
Commercial Trust Bldg.

CHICAGO
C. M. Patterson
222 West Adams St.

MOHAIR WORSTED AND WOOLEN YARNS

COLLINS & AIKMAN CORPORATION

PERCY A. LEGGE *Sales Agent*

New York • Philadelphia • Boston

RAYON TOPS

Standard Grades—Lustrous—Delustred—Superfine

Rayon Noils . . Staple Fibre

ANDREW K. HENRY

158 Summer St. Boston, Mass.

OSCAR HEINEMAN CORPORATION

•

PROCESSING

Rayon and Nylon Yarns

for Hosiery Knitting Trade

We specialize on high twist rayon processed with "AVCONIT No. 1" for full fashioned hosiery.

2701 Armitage Avenue Chicago, Illinois

Aberfoyle Mfg. Co., 123 So. Broad St., Philadelphia, Pa.
N. P. Murphy, 813 Guilford Bldg., Greensboro, N. C.
C. D. Gott Co., 3303 Brainerd Rd., Chattanooga, Tenn.

COSTS GO UP PRODUCTION DROPS

When dripping, wasteful oil is used on Looms frequent application is needed and production is reduced by damage to goods from oil stains.

NON-FLUID OIL stays in loom bearings and off goods. It helps 7 out of 10 mills to get higher production of clean cloth. Reduces lubricant cost by outlasting oil.

Write for instructive bulletin

New York & New Jersey Lubricant Co.

***Main Office:* 292 Madison Ave., New York, N. Y.**

Southern Agent, Falls L. Thomason, Charlotte, N. C.

WAREHOUSES

Chicago, Ill. Providence, R. I. St. Louis, Mo. Detroit, Mich. Atlanta, Ga. Charlotte, N. C. Greenville, S. C.

TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT. OFFICE & FOREIGN COUNTRIES

MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

RHODE ISLAND SCHOOL OF DESIGN

TEXTILE SCHOOL

• Provides ambitious young men and women with technical and practical training in the design, construction, and manufacture of yarns and fabrics. Courses include Principles of Production, Management, Economics, Costing, Marketing, and Industrial Psychology.

Four-year course leads to B.S. in Textile Engineering. Majors in yarn and cloth manufacturing, or chemistry and dyeing. Four year diploma course in clothing design.

Also wartime courses in all fields

Complete equipment — including power machinery of commercial proportions — for the manufacture of yarn and cloth from the raw materials to the finished product.

Effective placement service—unusual opportunities open to graduates. *Send for catalog.*

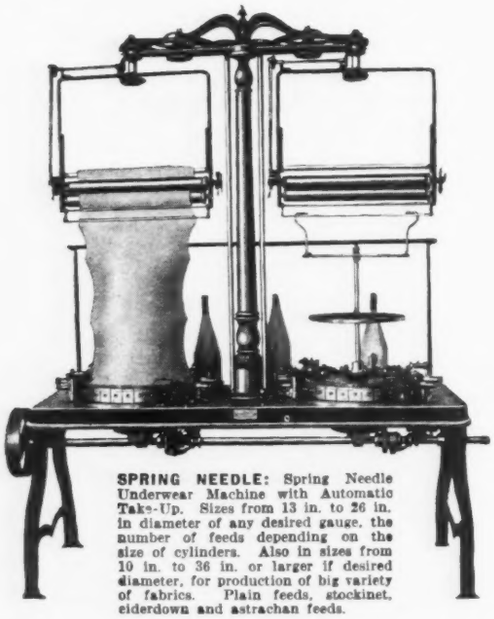
8 College St.
Providence, R. I.

Photo by Finkels, Graphic Arts Department

CRANE

KNITTING MACHINES

meet the need for Speed—
for Quality and Low Cost



SPRING NEEDLE: Spring Needle Underwear Machine with Automatic Take-Up. Sizes from 13 in. to 26 in. in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also in sizes from 10 in. to 36 in. or larger if desired diameter, for production of big variety of fabrics. Plain feeds, stockinet, elderdown and astrachan feeds.

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is *versatility* . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are Patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

Let us tell you why
—and how . . . just ***WRITE***

CRANE Improved Automatic
3 Colored

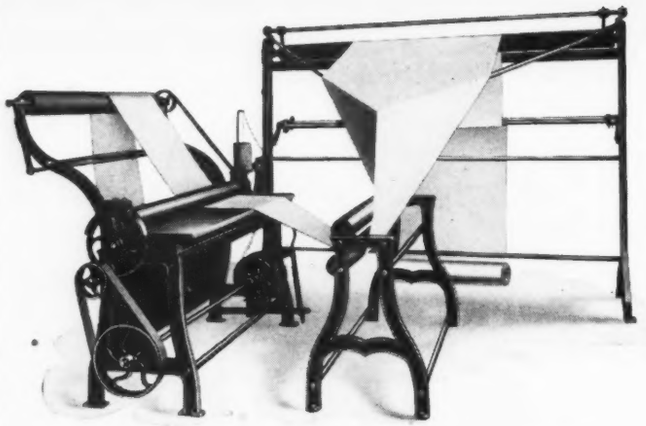
Improved Automatic 3 Colored Plain Stripes. Made in sizes from 7⅝ in. to 20⅝ in. inclusive, of any desired gauge. Measurements are back to back of cylinder needles. Knit fabrics for bathing suits, theatricals, athletic goods. Crawford stop motion applied when requested.

1870 **CRANE** 1942

MANUFACTURING CO.
LAKEPORT, N. H.

Spring Latch Needle

KNITTING MACHINERY



No. 27—IMPROVED DOUBLING AND TACKING MACHINE

Sewing any length stitch up to 1¼ in., making a firm, strong stitch for any weight or width of goods. This machine is equipped with our latest oscillating needle bar sewing head, which makes it the fastest tacking machine on the market for tacking the selvages of woolen and worsted fabrics. For further information, send for our catalog.

DINSMORE MFG. CO.

SALEM, MASS.

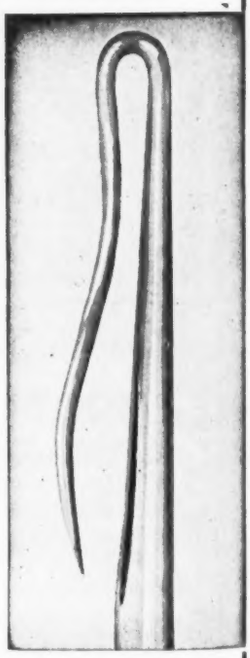
CHARLES COOPER CO., INC.

Bennington, Vermont

Manufacturers of

Quality LATCH and SPRING-BEARD

NEEDLES



also

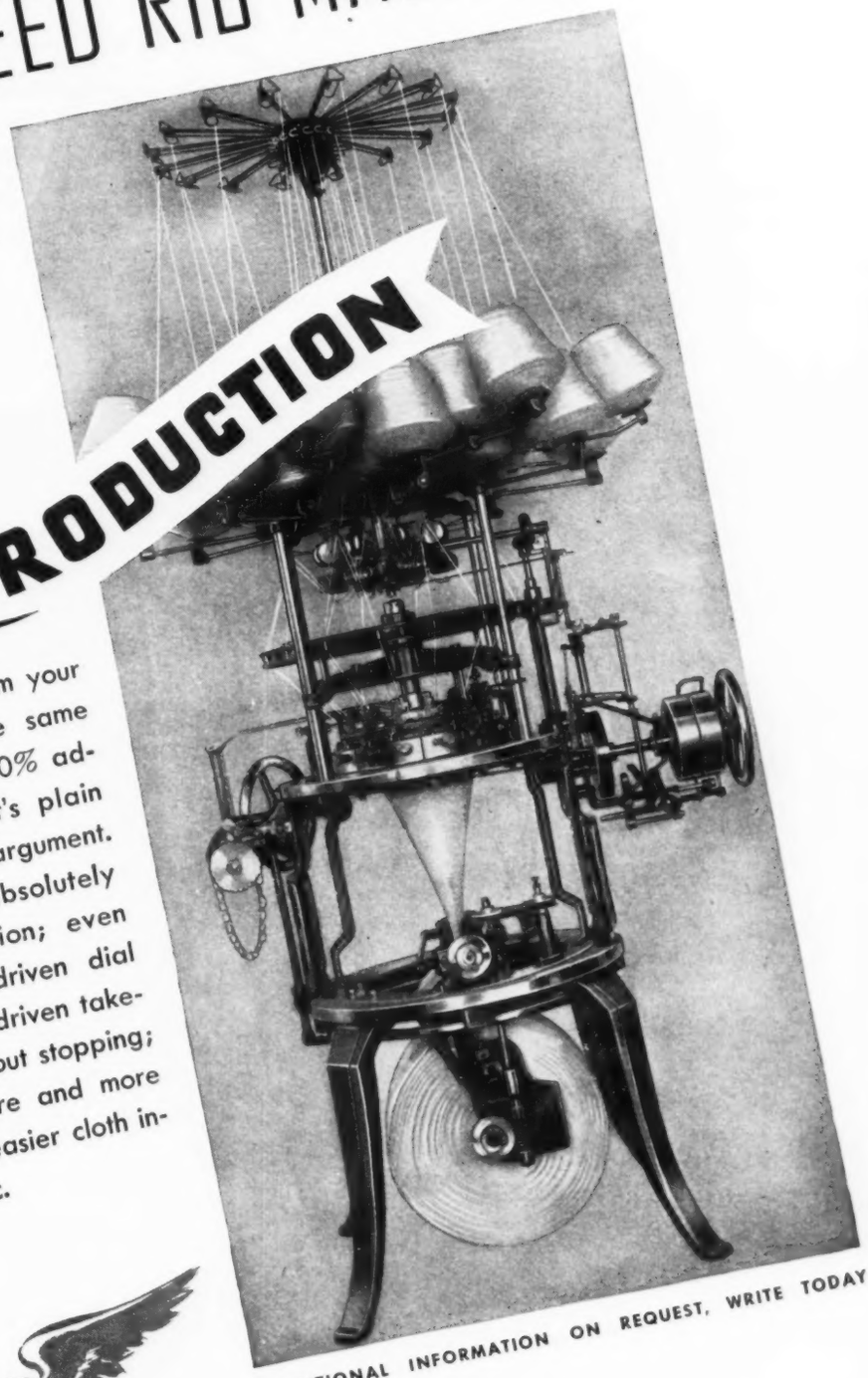
Manufacturers of **THE FAMOUS COOPER CIRCULAR SPRING-NEEDLE RIB KNITTING MACHINES**

. . . the demand of the day calls for this

MULTIPLE FEED RIB MACHINE

Today's economy will not tolerate less than maximum results from floor space, machinery and man hours. This 16 feed machine permits you to

DOUBLE the PRODUCTION



you are now getting from your 8-feed machines on the same floor space with only 30% added power cost. That's plain arithmetic that defies argument.

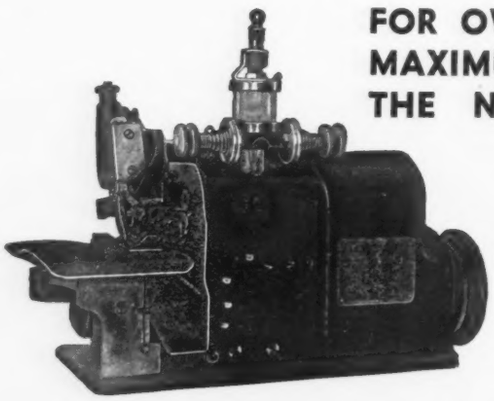
Other features: absolutely trouble-free operation; even yarn tension; gear-driven dial —no pinching; belt-driven take-up; new cones without stopping; swing-out roll; more and more varied patterns; easier cloth inspections; etc., etc.

ADDITIONAL INFORMATION ON REQUEST, WRITE TODAY

WILDMAN

MFG. CO., NORRISTOWN, PA.

Established 1838 **MERROW** **Incorporated 1894**



FOR OVERSEAMING AND OVEREDGING WITH MAXIMUM EFFICIENCY — MODERNIZE WITH THE NEW MERROW CLASS A MACHINES

The result of several generations of specialized effort in the industrial sewing machine field—combining quality production with high speed and low operating cost to a greater degree than ever before.

WRITE FOR DETAILS AND LET US DEMONSTRATE THESE MACHINES ON YOUR OWN FABRICS.

ALSO PLAIN CROCHET AND SHELL STITCH MODELS FOR ORNAMENTAL EDGE FINISHING AND CLASS 60 MACHINES FOR BUTT SEAMING

200 VARIETIES FOR 200 PURPOSES

THE MERROW MACHINE COMPANY

Starting Its Second Century

2803 LAUREL STREET HARTFORD, CONN., U. S. A.

Machine and Hand Knitting

Yarns

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

★

Complete color assortments

American Woolen Company

225 Fourth Avenue New York

NEW ENGLAND BUTT CO.

PROVIDENCE, R. I.

Manufacturers of

BRAIDING MACHINERY

now

ONE HUNDRED YEARS YOUNG

1842—1942

Write Dept T-8 for Catalog No. 41

Containing information on braiders

THE LOYAL T. **IVES** COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

Acme Products

for seamless hosiery knitting

Speak for themselves

Up-To-Date Machines

Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.

FRANKLIN, N. H.

TOMPKINS

CIRCULAR SPRING NEEDLE

KNITTING MACHINES

FOR PRODUCING

UNDERWEAR	OVERCOATS
SWEATERS	TERRY CLOTH
SWEAT SHIRTS	STRIPED CLOTH
DRESS CLOTH	PATTERNS

RUBBER LAY-IN FABRICS

CIRCULAR LATCH NEEDLE

KNITTING MACHINES

FOR PRODUCING

TOQUES	SCARFS
PARKAS	SHAKER CAPS

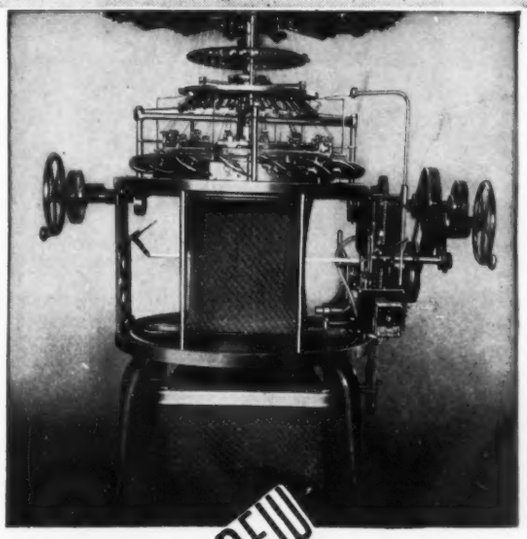
TOMPKINS BROS. CO.

SINCE 1846 **SYRACUSE, N. Y.**

Jacquard-Type Welt-Stitch... Blister-Stitch Mesh-Stitch..

BRINTON

As Always—first to produce important, invaluable innovations



NEW

● The new BRINTON PR (Pattern Rib) machine is the first to produce jacquard type patterns on both face and back of rib fabrics.

Where great elasticity is desired (as in bathing suits) and where welt stitch figures are wanted—it is particularly valuable.

Full particulars, without obligation.

BRINTON CIRCULAR KNITTING MACHINES

New York Office
1270 Broadway

Southern Representative
Robert Baker
Greensboro, N. C.

Canada
Harley-Kay Co.
Georgetown

3700 Kensington Ave.
Philadelphia, Pa.

West Coast
E. G. Paules
Bendix Bldg.
Los Angeles, Cal.

Check Up—

on Globe's special fitness to handle your yarn dyeing efficiently.

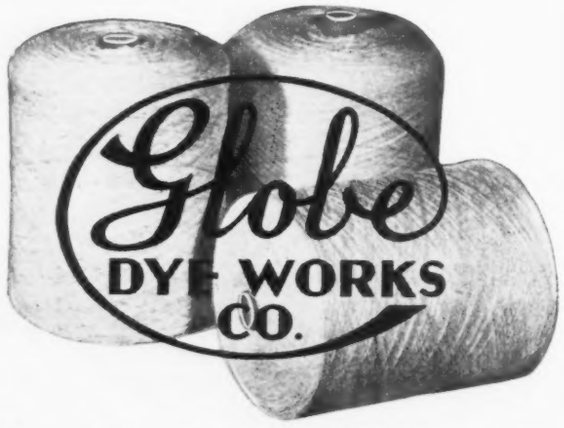
•

Here you will find a matchless combination of long experience and modern equipment, for dyeing of cotton skein yarns and warps; also for dyeing rayon, spun rayon, nylon and novelty yarns.

•

Two laboratories for testing and control, and scientifically trained men in charge of production and sales are behind Globe's assurance to you that—

"YOU CAN RELY ON GLOBE"



Frankford, Philadelphia, Pa.

39 WAYS

TO SPEED YOUR MAINTENANCE WORK:

Within the covers of this interesting, fact-filled Oakite Digest, you will find described 39 important mill maintenance jobs!

Each is a job which many mills are now doing faster, easier or at less cost because of an Oakite method that saves time . . . or effort . . . or provides some other worthwhile benefit. Each is a job where specialized Oakite materials offer you the same money-saving opportunities!

SEND FOR YOUR FREE COPY TODAY!

Why not ask for your copy? The chances are that here you will find several sound, practical suggestions to help you put all your maintenance work on a more effective, low-cost basis. Write . . . no obligation, of course.

OAKITE PRODUCTS, INC., 42 Thames Street, New York, N. Y.

Representatives in All Principal Cities of the U. S. and Canada

OAKITE Specialized **CLEANING**
MATERIALS...METHODS...SERVICE — FOR EVERY CLEANING REQUIREMENT

STANDARD SILICATES

SOAPING PRINTS

"For brighter colors and whiter backgrounds, use 1 pound of Standard Grade 40 Silicate with 2 to 3 pounds of soap or synthetic detergent."

ALKALI

DIAMOND ALKALI COMPANY
STANDARD SILICATE DIVISION
GENERAL OFFICES: PITTSBURGH, PENNSYLVANIA
Plants at CINCINNATI · JERSEY CITY · LOCKPORT, N. Y.
MARSEILLES, ILL. · DALLAS, TEXAS

FULLITIN

1. Used in place of soap for fulling, it eliminates the lengthy soap boiling operation.
2. Used with soap, it prevents congealing, eliminating stuck places, creases and whiplashes.
3. Permitting the use of stone cold soap, it prevents the troubles that hot soap causes.

Sample on request

ERNST BISCHOFF CO., Inc.
IVORYTON — CONN.

RAPIDASE

THE STANDARD DE-SIZING AGENT

for cottons, rayons and mixed goods

For your de-sizing problems — our technical men are at your service . . . Write or 'phone.

WALLERSTEIN COMPANY, INC.
180 MADISON AVENUE, NEW YORK

TO HELP MAKE HER WAR-TIME APPAREL BOTH
Attractive & Durable
—there's a Scholler Product available for every Fibre, or every combination of Fibres—Products that definitely assist the mill to get the utmost out of Every Fibre—Finishes "tailored to fit the Fabrics" . . . And, Scholler Products are recognized as a standard of quality around the globe . . . all, the result of over 35 years' research and specialization in textile chemistry.
For enchanting Beauty, Allure, Wearability, Spot and Snag Resistance, the name
Dura Beau*
is (and has been for many years) synonymous with countless brands of quality fabrics.
Ask a Scholler Specialist to call.
* Reg. U.S.A. & Canada

SCHOLLER BROS., INC.
MANUFACTURERS OF TEXTILE SOAPS, SOFTENERS, OILS, FINISHES
COLLINS & WESTMORELAND STS., PHILA., PA. ST. CATHARINES, ONTARIO, CANADA

Today . . .

IT'S QUALITY THAT COUNTS!

The trade knows that modern standards . . . war standards . . . demand A-1 quality. And they know, because of 68 years of experience, that BORNE SCRYMSER WOOL OILS give them not only the highest quality but value as well.

★ **BRETON OILS FOR WOOL**
★ **XX SAPONIFIED OIL FOR WOOL**
★ **RER SPECIAL WOOL OIL**
★ **SS WOOL OIL**

Highest quality also in:

Apron Oils • Shear Oils • Loom Oils
Comb Box Lubricants
High Pressure Greases
High Temperature Greases

This Seal Your BRETON OILS for WOOL Quality Assurance

BORNE SCRYMSER COMPANY

Originators of the BRETON MINEROL PROCESS for FIBRE CONDITIONING
ESTABLISHED 1874

ELIZABETH, N. J. CHARLOTTE, N. C.

NEW ENGLAND REPRESENTATIVES

AUSTIN M. KNIGHT, WEST YARMOUTH, MASS
FREDERIC L. EKSTRAND, STAFFORD SPRINGS, CONN
HENRY F. GRAUL, SPRINGFIELD, MASS
S. T. DOUGLAS, JR., WESTWOOD, MASS

SOUTHERN REPRESENTATIVES

H. L. SIEVER, CHARLOTTE, N. C.
R. C. YOUNG, CHARLOTTE, N. C.
W. B. UHLER, SPARTANBURG, S. C.
JOHN FERGUSON, LA GRANGE, GA.

FOR SALE—*Surplus Stocks*

Study This List . . . Make An Offer

Surplus Stocks of the following materials, in the quantities noted, are available for immediate sale:

Material	Pounds	Material	Pounds
Acetic Acid (28%)	1,150	Stearic Acid—1 press	5,705
Ammonium Alginate	537	Trisodium Phosphate	2,179
Barytes	6,600	Tuads	1,000
Dixie Clay	8,972	Sodium Oxalate	384
Essotex	4,300	Butyl Stearate	3,454
Locust Bean Gum (A Grade)	1,780	Gelatine (Indegel F)	1,470
Aroclor #1254	468	Keystone Whiting	149,575
Cork—through 18 mesh, on 30 mesh	1,384	Karaya Gum	2,426
Cumar VI-1½	287	Sussex Whiting #100	48,860
Laurex	1,279	Veroc Whiting	21,900
Leather Odorant (V-6031-5)	25	Pumice—8 plus 30	40,115
Morpholine	450	Pumice Stone WCD #2	1,228
Naphthenic Acid	198	Pumice Stone G50RT	1,181
Nuva Rosin	2,383	Accelerator #122	230
Sodium Fluoride	342	Cumar RH	1,696
		Cumar AX	422

The materials and quantities listed above are subject to prior sale. Terms: F.O.B. plant location in metropolitan New Jersey. Every offer will be given careful consideration. If interested, communicate with:

J. H. RINES

P. O. Box 84 **East Rutherford, N. J.**

ROME SOAP MFG. CO.

WRITE US FOR SAMPLES AND QUOTATIONS

MANUFACTURERS OF

Textile, Laundry

and

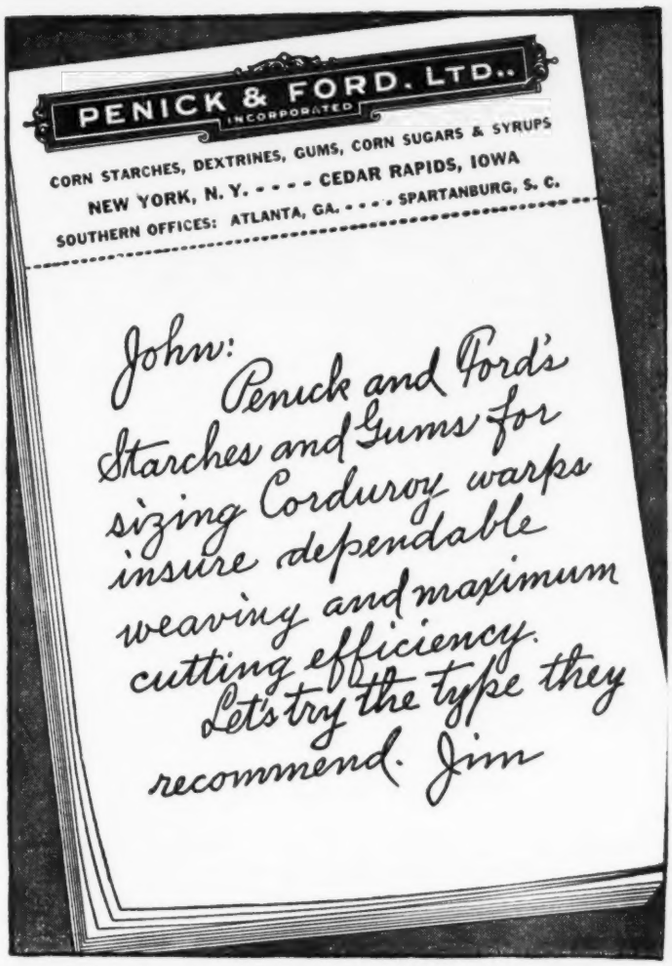
Special Soaps

ROME, N. Y.

D. R. KENYON & SON

RARITAN, N. J.

TENTERING and DRYING MACHINERY


PENICK & FORD, LTD.
INCORPORATED
CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.
John: Penick and Ford's Starches and Gums for sizing Corduroy warps insure dependable weaving and maximum cutting efficiency. Let's try the type they recommend. Jim

JAPAN WAX SUBSTITUTE No. 98

distributed by

CORNELIUS PRODUCTS COMPANY

432 Fourth Avenue, New York, N. Y.

Importers and Manufacturers of Waxes

NATURAL WAXES	SYNTHETIC WAXES
Carnauba Wax	Carnauba Wax Substitute No. 151
Beeswax	Beeswax Substitute
Candelilla Wax	Ozokerite Wax
Ouricury Wax	Ceresine Wax

SAMPLES SENT UPON REQUEST

DRAPER SOAPS are Dependable Soaps. For a great many years the J. O. Draper Company has been supplying the textile industry with better soaps for finishing processes.

DEPENDABLE

The industry has come to realize that the phrase "*Depend On Draper*" is not just an advertising slogan, but a fact that is of real help in the production of better cloth.

Write for literature and prices.

J. O. DRAPER CO.

PAWTUCKET, R. I.

"Low Prices Never Bought Quality"

MANUFACTURERS OF DYESTUFFS AND CHEMICAL SPECIALTIES

We offer Two new cationic type softeners

TEXAMINE

a pure white permanent softener economical to use due to its complete exhaustion qualities

TEXAMINE K

a permanent softener and desizing agent for processing grey goods in the kier eliminating the customary grey desizing.

MAY WE SERVE YOU?

A FULL LINE OF DYESTUFFS
CONVERTED STARCHES
WATERPROOFING AGENTS
SULPHONATED OILS
FINISHING COMPOUNDS
PENETRATORS
DETERGENTS AND OTHER
CHEMICAL SPECIALTIES
send for detailed information

COMMONWEALTH COLOR & CHEMICAL CO.

Main Office and Works:

Nevins, Butler and Baltic Streets, Brooklyn, N. Y.

Philadelphia Chicago Charlotte
Gloversville Kansas City Montreal

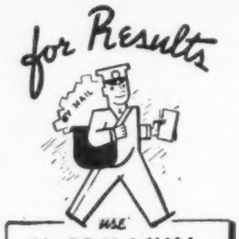
STYLE 28

ROVING TRUCK

LANE CANVAS TRUCKS

For the well equipped mill

W. T. LANE & BROS., Inc.
Manufacturers, Poughkeepsie, N. Y.



Mc GRAW-HILL
DIRECT MAIL LIST SERVICE

MAILING LISTS THAT WORK...

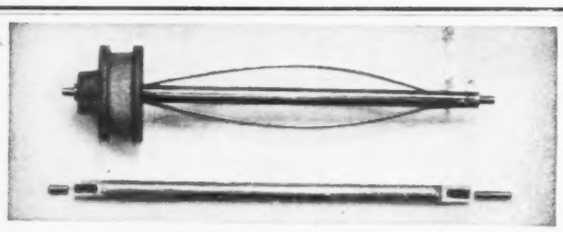
McGraw-Hill Industrial Mailing Lists are a direct route to today's purchase-controlling executives and technicians in practically every major industry.

These names are of particular value now when most manufacturers are experiencing constantly increasing difficulty in maintaining their own lists.

Probably no other organization is as well equipped as McGraw-Hill to solve the complicated problem of list maintenance during this period of unparalleled changes in industrial personnel. These lists are compiled from exclusive sources, based on hundreds of thousands of mail questionnaires and the reports of a nation-wide field staff, and are maintained on a twenty-four hour basis.

Investigate their tremendous possibilities in relation to your own product or service. Your specifications are our guide in recommending the particular McGraw-Hill lists that best cover your market. When planning your industrial advertising and sales promotional activities, ask for more facts or, better still, write today. No obligation, of course.

McGraw-Hill Publishing Co., Inc.
DIRECT MAIL DIVISION
330 West 42nd Street New York, N. Y.



Renewable Tips Give You New Top Bobbin Spindles for No. 90 Machines

Wayne Spindles, with patented, renewable, tool-steel tips cost little more than solid end spindles. Worn tips can be quickly replaced for a few cents, and spindles are then good as new. Send for sample—see how to save time and money.

WAYNE MFG. CO. HONESDALE, PA.

BACK ISSUES OF TEXTILE WORLD.

A limited number of copies of TEXTILE WORLD for the months from March 1942 through July 1942 are now available. These are available at 25c a copy for as long as they last. Address your order to . . .

Subscription Department

TEXTILE WORLD
330 West 42 Street New York

ALL STEEL
ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.

ECONOMY BALER CO., DEPT. J ANN ARBOR, MICH., U.S.A.

REPRESENTATIVES:
New York Office: 100 Gold St.
Philadelphia Office: Drexel Bldg.
Terrell Machine Co., 1200 No. Church St., Charlotte, N. C.
Boston Office: 601 Atlantic Ave.
Other Sales and Service Branches in most Important Cities.

SEARCHLIGHT SECTION

Over Forty Years of Dependable and Confidential

EMPLOYMENT SERVICE

for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.

CHARLES P. RAYMOND SERVICE, Inc.

Phone: Liberty 6547 — 294 Washington Street, Boston, Mass.

If you have any WATER POWER or PONDS to be DREDGED . . . I have a PORTABLE SUCTION DREDGE available to do same.

H. P. GUION
303 W. 42nd St., New York City

FOR SALE

COMPLETE VELVETEEN PLANT
Located Northern New Jersey

10—TONNAR LOOMS — heavy duty—ready to run—in excellent condition with full equipment, including individual motors.
1—Eastwood Warper and Creel.
3—Universal Quillers, complete.

FS-167, Textile World,
330 West 42nd St., New York City

FOR SALE

8—92" **C & K heavy Worsted Looms.**
1—**Furbush Mule** 2½" gauge.
1—**J & B Mule** 2" gauge.
3—sets of 60" **woolen cards.**
2—sets of 60" **Worsted Cards.**
1—48" **Sargent Scouring machine.**
1—48" **Sargent Wool Dryer.**
2—60" **Floor card grinders.**
1—60" **Yankee card grinder.**
2—three cylinder 30"x60" **garnetts, P&S.**
1—two cylinder 20"x60" **garnett, P&S.**
1—one cylinder 20"x60" **garnett** (Hunter)
1—two cylinder 20"x48" **garnett** (Smith)
1—**Fearnaught Picker.**
1—48" **Sargent Burr Picker.**
2—48" **C & M burr Picker** with feeders.
1—72" **Tolhurst extractor.**
4— **P & S Condensers.**
8—**Sturtevant-Bayley-American Blowers.**
1—7 foot **P & S cone willow.**
1—10' **P & S cone willow.**
4—18" **Shoddy Pickers.**
Garnett workers and cylinders.

H. B. LINCOLN, JR.
P. O. Box 11 — Swarthmore, Pa.

3—**J&B 2" gauge, 312 spindle Mules**
1—**Columbia-Green Single Acting Napper**
2—**I.B.M. Electric Time Clocks**
Reeds & Harness Frames, 90" wide
New oil switches, recording wattmeter
Stock Dye Kettles, Pulleys, Shafting, Etc.

WOOL WASTE AND SHODDY
HUDSON RIVER WOOLEN MILLS
420 Madison Avenue — New York City

Textile manufacturer is open to buy draper XD and C & K, S-5 Looms. In answering give full details, reed width, etc.

W-166, Textile World
330 W. 42nd St., New York City

WANT TO BUY

3—25,000 gal. Cap. or Larger Steel Water Tanks on Steel Towers
3—750 or 1000 GPM Underwriters Fire Pumps

RUSSELL STANHOPE
305 Madison Ave. — New York, N. Y.

WANTED

50 braiders. 3 or 5 and 20 carriers New England butt type. Must be in first class running condition. Quote Best price.

W-149, Textile World
330 West 42nd St., New York City

WANTED
Elastic Braiding Machines

13-17-25-33 Carrier Type New England Butt or Textile Makes.

W-168, Textile World,
330 West 42nd Street, New York City

WANTED
TWO—40 INCH RING CONDENSERS
ONE—48 INCH RING CONDENSER

Double Apron—2 Bank High.
Must be in good condition.

TEXTILE MILLS CORP.
820 So. Tripp Ave. — Chicago, Illinois

WANTED

High Speed Warper complete with creels and stop motion for beaming warps from dyed packages or cones. Must be in first class condition.

W-160, Textile World
330 West 42nd St., New York City

FOR SALE

7—Rubber Thread covering machines
2—Morrison 49 Spindle Thread Dressers
7—Ball Winders 8" gauge or space between spindles. Franklin make
10—Silver & Gay Ball Winders 5" gauge or space between spindles
1—12 Spindle Automatic Atwood Spooler for putting sewing threads on wood spools
1—8 Spindle Automatic Atwood Spooler for putting sewing threads on wood spools
1000—Braiding Machines for all purposes
2—Foster make 40 spinning tube winders.

ROBERT SOLOMON & CO INC.
162 Greene St. — New York City

POSITION VACANT

(See also "Selling Opportunity Offered")

MAN WANTED—For responsible supervisory position with progressive Narrow Textile Mfg. Concern. General Textile manufacturing and processing knowledge required. Outstanding opportunity for man who wants to connect with concern now doing large volume war work and also see post-war security. Write P-169, Textile World, 330 W. 42nd St., New York, N. Y., giving full details of experience—education—age—draft status and salary expected.

WANTED: Four experienced Card Grinders. Guaranteed pay 60c per hour. Mills now running 6 days per week, 8 hours per day three shifts. Additional compensation through bonuses. Granite Falls Mfg. Company, Granite Falls, North Carolina.

CHEMIST—for continuing Research and Development on product not in Textile field but of somewhat similar nature. Give full details of education, experience, qualifications. Enclose photo (will be returned) and state salary expected. AAA-1 Manufacturer. P-170, Textile World, 520 N. Michigan Ave., Chicago, Ill.

POSITIONS WANTED

(See also "Selling Opportunity Wanted")

SUPERINTENDENT OVERSEER Cotton Rayon weaving by a young man experience with dress and sheer, goods linings fancy and novelty box and dobby weaves C&K Stafford and Draper looms. PW-171, Textile World, 330 W. 42nd St., New York, N. Y.

WOOL YARN SUPERINTENDENT. Diversified Textile experience. Wool Yarn blending, for Weaving or Knitted Overcoats. Capable of filling any supervisory Capacity. PW-172, Textile World, 330 W. 42nd St., New York, N. Y.

SELLING OPPORTUNITY OFFERED

SALES ENGINEER WANTED. Qualified Sales Engineer under 40, Textile School Graduate preferably for New England territory. Salary, commission and expenses paid. SW-173, Textile World, 330 W. 42nd St., New York, N. Y.

OPPORTUNITY WANTED

SELLING AGENT with New York sales office, Drapery and Upholstering Fabrics; Cotton Yarns, open for additional lines. Can make very interesting offer to mill needing services of man who knows his business. SA-174, Textile World, 330 W. 42nd St., New York, N. Y.

FOR SALE

Four-set Woolen Mill. Ready to operate. Plant and office buildings together with machinery. Equipped completely to make all types of woolen blankets, and wool and cotton mixed goods. New equipment includes W-3 C. & K. automatic blanket looms, James Hunter tenter dryer, Rodney Hunt stainless steel piece dye machine. Power plant equipment recently overhauled. Good rail center. A real opportunity. Inspection by appointment.

RUSSEL B. UPDEGRAFF, Receiver for
SUSQUEHANNA WOOLEN COMPANY
New Cumberland, Pa.

WANTED TO BUY

A mill with water power in New London County.

P. SCHUSTER, Colchester, Conn.

WANTED

Motor Driven-Two Roll Double-Tin Tops & Bottoms-Seaming Machine For Fibre Cans

W-165, Textile World,
330 West 42nd St., New York City

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL

Booklet—"General Information Concerning Inventions & Patents" and "Free Schedule" sent without obligation.

Established 1915

Patents—Copyrights—Trade-Marks
Suite 448, 815—15th St., N.W., Washington, D. C.

FOR SALE

CARDING & SPINNING MACHINERY

1—Sargent 36" Multiplex Burr Picker
1—Schofield Rag Picker
1—6'6" Sargent Cone Duster, Metal Ends
2—48" C. & M. Fearnaught Mixing Pickers
1—36" C. & M. Mixing Picker, Atlas type
1—F. & J. 80 sp. 4" Ring Twister, tape driven
1—C. & M. Flock Cutter
1—D. & F. 24" Flax or Jute Picker

WARPING AND WINDING MACHINERY

1—80 Sp. Foster 101 Tube Winder
20—#50 Universal Winders "Rebuilt" to your order
50—#90 Universal Winders "Rebuilt" to your order
5—#180 Universal Super Coners
1—40 spindle O. Lever Cop Winder
4—72" to 100" Pin and Pinless Warping Mills
12—Beaming Frames various widths
3000 Wood Spools 4" x 6"

WEAVING MACHINERY

17 Knowles 85" Automatic Looms
10—82" C. & K. Looms, 4 x 4 box, 25 har.
2—O Lever Chenille Cutters
1—600 Hook Royle Card Cutter, Piano type

DYEING AND FINISHING MACHINERY

2—Smith Drum 16 Arm Mercerizing Machines
1—36 roll Woonsocket D.A. Napper
1—Gessner Heavy Duty Jumbo Press
1—80" D. Gessner Century Cloth Press
1—72" Gessner Century Press
1—78" C. & M. 2 cyl. Brush with steamer
1—P. & W. 66" Plush Shear
1—C. & M. 66" Plush Shear
4—Model A. P. & W. 66" Double Shear
1—66" Model B. P. & W. Double Shear, list saving
3—C. & M. 66" Double Cloth Shear
1—Rodney Hunt, type SM Soaping Machine
3—A. T. & M. Co. Underneath driven Extractors 36" to 54"
1—66" Steiner Dewing Machine
1—60" 2 cylinder P. & W. Steamer and Brush
1—E. & H. Yard and Quarter Folder 66"
1—C. M. 64" two Burner Singer

FRANK W. WHEELER CO.
1837 E. Ruan St. Phila., Penna.
Phone JEFferson 4771

LIQUIDATING
EXCELLENT FINISHING EQUIPMENT
COTTON—RAYON—WOOL

Special Offering—$100,000 Modern Water Softening & Filtration Equipment, including:
2—Permutit 9' x 15' Horizontal Water Softeners.
7—Hungerford & Terry 8' x 20' Water Filters.
Large quantity Zeolite, Water Pipe, Meters, Tanks, and etc.

500—Copper Print Rollers, 15" to 19" Circ.
13—Print Machines, 42" to 64" six to ten colors.
4—Agers 12' to 24'.
10—Copper Colour Kettles, 40 to 100 gallon.
1—Werner 50" one Colour Print Machine.
1—V.V. 3 roll Print Padder.
1—Windsor and Jerauld Mercerizing Range.
4—Tenter Frames, 40', 50', 60', 90', all stainless Steel Clips.
10—Mangles & Padders—50" to 90".
1—Butterworth Copper Can Dryer, 16 Cans, 60" Diam. 72" Face, Horizontal Stack.
1—Proctor & Schwartz Loop Dryer.
24—Dye Jiggs.
2—50" 5 Bowl Textile Calendars.
2—Textile Hydraulic Schreiner Calendars.
1—V.V. 60" Beamer and Rolling Up Machine.
8—12' Dye Becks.
2—Parks & Woolson 54" Doublers.
2—48" V.V. Copper Basket Ext. A. C. Motors.
1—60" Hercules Rubber Basket Self Balancing Extractor A.C. Motor.
2—Continuous Boil-off Units.
1—Tolhurst Open Top 48" Extractor.
3—Open Soapers or Crabs 72"—84", Rubber Rolls.
20—Can Dryers, Copper and Steel 40"—90" Face.
10—Mangleton Padders 45"—84".
1—Van Vlaanderen 60" Palmer Quetch Unit.
1—King & Gerber 65" 3 Roll Finishing Calendar.
1—Van Vlaanderen 60" 3 Roll Finishing Calendar.
2—Van Vlaanderen Tubers and Doublers.
1—80" Full Width Washer equipped with Mangle.

Misc. Folders, Tubers, Quetches, Dry Cans, Washers, Dye Becks, Mangles, etc. This is a good market to dispose of your surplus and inefficient equipment. Send us your list for prompt action.

REPUBLIC TEXTILE EQUIPMENT COMPANY, Inc.
40 Worth St. Phone WOrth 2-4583 New York City, N. Y.

You Buy MACHINERY + EXPERT SERVICE—When You Buy "TEXTILE AUXILIARIES"

For Prompt Delivery from Stock:

1—66" "Detroit" P.&W. Examining Machine
2—Schoefield D.&R. Machines 40" & 42"
2—Windle D&R Machines 66"
4—Calenders 5 Bowls—50", 54", 66"
1—5 Ton Hoist—30' rail
3—Pads 2 roll—40", 50", 66"
1—V V. 3 cyl. Rayon Slasher
1—50 gal. Closed Jack. Kettle high pr.
1—50" V. V. Roll Extractor (horizontal)
1—Revolv. Skein Yarn Dryer w/ Housing
1—50 gal. Jack. Copper Kettle—Agitator
1—90' Textile Tenter (straight)
1—30' W&J Tenter—take on and let off
1—40' Tenter 60" (new)
1—72" 3 cyl. Montfort Shear
1—66" Copper Dryer (Chadwick) 3-5' cans
2—50" V. V. Button Breakers
3—Sets Single Process Pickers (H&B)
2—28" Stick Klauder-Welden Dye Mches
1—56" Stick Klauder-Welden C. I. Box
1—56 Stick Giles Monel Tank
1—4 Box Cont. Dyeing Mch. 50"
1—66" Jig (Johnson Clutches)
6—50" Iron Jigs
2—Hytor Nash Pumps #2 & #3
2—Cont. Boiler Blow-off Cyl. (Permutit)
1—12" 2 Stage Ingersoll-Rand Water Pump
1—6"x8" Centr. Pump (Seneca Falls)

TEXTILE AUXILIARIES
Tel. Dexter 9650

Office and Warehouse #1 15-17 Ormsbee Ave.
PROVIDENCE, R. I.
Warehouse #2, Pawtucket, R. I.

WE OFFER FOR SALE

New SILVER KING 12" x 36" Vulcanized Fibre Roving Cans in quantity lots.

33—DRAPER TWISTERS, 200 spindles each, 3" gauge, 2¼" ring, tape driven; equipped with separators—1922-1924 model. Excellent condition.

A. F. FYANS
Textile Machinery
P. O. Box 454 Fall River, Mass.

FOR SALE

2—Sets of D & F 54" x 60" Worsted Cards, with aut. feeds, 36" doffers, balling heads, age 1936

1—Sargent 4 bowl Scouring Machine, 48" wide, aut. feed & Sargent Dryer.

1—26" Tolhurst Extractor, copper basket, belt drive.

1—Perkins 54" Window Fan, belt drive.

Copper Slasher Cylinders 57" face, 6 ft. 5 ft. 4 ft. dia.

Bobbins—Spools—Supplies

Sole Agents for Smith Yarn Twist Tester

BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

FOR SALE
DYEING EQUIPMENT

1— 10 pound Butterworth Rotary motor drive $200.00
1— 25 pound Butterworth Paddle type motor drive $450.00
2— 25 pound Smith-Drum Paddle type chain drive ..... ea. $425.00
2— 50 pound Smith-Drum Paddle type chain drive ..... ea. $450.00
1—200 pound Smith-Drum Rotary type motor drive $1,500.00

We also have American Laundry Machines, Rotary Type 75 to 300 pounds. Extractors—30 inch and 40 inch.

These machines are all monel metal, perfect condition.

WANTED—one Calender machine—100 inches wide.

JOHN WRIGHTSON
201 Drexel Building Philadelphia, Pa.
LIST YOUR IDLE EQUIPMENT WITH US

FOR SALE
WORSTED BOBBINS
DRAWING BOBBINS

Approx. 1200 7x14 with tie rods
Approx. 560 7x14 plain
Approx. 620 8x14 plain
2000—Roving Spools, 9x4½"
38,300—Wood Cheeses, 6⅞"x1 1/16"
605—Speeder Bobbins (with plates), 10x5
330,000—Automatic Loom Bobbins 8"
583—8x4 Cone Reducer Spool with Plates
11,500—Double Head Twister Bobbins
75,000—Twister Bobbins, 6"x2"x1¾"

L. J. McCAFFREY & SON, INC.
Box 495 Pawtucket, Rhode Island

FOR SALE
1100 ABBOTT WINDER

4 Degree Cones, Cork Covered. Can ship immediately. Price and samples on request.

FS-163, Textile World,
330 West 42d St., New York City.

FOR SALE
PAPER TUBES

Approximately 250,000—8½" paper tubes, practically new, for woolen mules. Samples on request. Any reasonable offer will be considered.

FS-164, Textile World
330 W. 42nd St., New York City

USED PICK COUNTERS

For sale several hundred used double pick counters in good condition.

COUNTER EXCHANGE
P. O. Box 3095 Charlotte, N. C.

FOR SALE
MIXING PICKER

1 48" & 1 60" D & F 6 Bar, with Bramwell Stock Feed

Thomas E. Batey, Textile Machinery
Kendal Green, Mass. Tel. Waltham 2271

FOR SALE
CRANE KNITTING PARTS

Trick tops, parts and any guage wheels.

FS-162, Textile World
330 W. 42nd St., New York City

When you need Mill Machinery *in a HURRY . . .*

Reach for your telephone

Call: PEnnsylvania 6-8014

WE'll start it moving to your mill at once, if it is in stock . . . if not, we will canvass our nation-wide contacts in textile mills and throughout the used textile machinery field and, if it is available anywhere, we will start it moving toward your mill. But . . . no matter how much speed is required, every machine in inspected before shipment; we issue no shipping instructions unless—*and until*—machinery is in good operating condition.
That's the kind of service you get when you use FAST MLC service. But "FAST" is only one way of describing MLC service. We have been supplying the used equipment wants of the textile industry with steadily growing success for the past 16 years and our clients' CONFIDENCE that MLC will deliver the goods . . . on time . . . keeps them ringing our telephone whenever they need what we can supply.
When *you* need MILL MACHINERY, Wire, Write or TELEPHONE MLC.

Ready for Immediate Shipment

3—46" to 52" Van Vlaanderen Button Breakers
1—42" King & Gerber 3 roll Calender with 3/60/220 v. motor
1—48" Farmer 6-bowl Calender
1—50" Van Vlaanderen 3-roll Calender
2—sets 3-cyl. Furbush Woolen Cards 48"x60" camel back feeds Barker condensers
8—Whitin D-2 Combers
3—Whitin C Combers
1—72" Gessner 2 Cyl. Semi-Decating Machine Motor Driven
9—36" to 48" Windle Doublers
1—60" Van Vlaanderen Doubling, Tubing & Measuring Mche.
1—set of 10 Textiles 23"x60" Dry Cans, vertical frames
1—set 23 Lincoln 88" Face Copper Dry Cans, Horizontal Frames
1—150 yd. Kenyon Return Tenter Dryer 65" opening
2—84" Proctor & Schwartz Loop Dryer
1—Hurricane Loop Dryer, 7'8" wide x 34'2½" long x 6'3½" high, inside dimensions
3—Smith Drum Paddle Dyeing Machines with motors, 1-25 lb., 1-50 lb., 1-100 lb.
1—56 Arm Mayoux Skein Dyeing Machine driven with monel and copper tanks
1—24" Empire Copper Basket Extractor, belt driven
1—30" Hercules motor driven Extractor
1—36" Empire Copper Basket Extractor Belt Driven
1—40" Tolhurst Copper Basket Extractor 3/60/220 v. motor. Extra Basket.
2—48" Tolhurst Copper Basket Extractors, belt driven
10—40" to 46" Elliott & Hall Folders
2—Schultz Fulling Machines
1—60" wide, 3-cyl. 30" dia. Garnett, automatic
2—54" and 64" Inspecting & Winding Machines
35—S&W Mod. K Knitters, 48 gge. 3" to 3½" 160 to 220 N. with attachments
30—42" Draper Model K Auto. Looms, 20 h. mtr. dr.
21—56" C & K 4x4 Box Looms with 600 hook Jacq. Hds. belt driven
18—56" Eastwood 1x1 Looms with 600 hook Jacq. Hds. belt driven
12—72" C & K (4x4) Tapestry Looms with 1300 Jacq. mtr. dr.
30—82" C & K 4x1 Auto Looms 25 harness mtrized.
10—92" C & K 4x4 Box Looms
100—92" Draper Model L automatic Looms, belt driven
4—120" C & K (4x4) 25 harness Looms
2—60" P & W Selvage Trade Markers
1—24 Pole Smith Drum Skein Mercerizing Machine
1—65" Van Vlaanderen Palmer
1—50" Morrison Triune Finishing Mach. Quetch Palmer Tenter
1—36" D & F Mixing Picker with Bromwell Feed & Spencer Oiler
1—48" C & M Mixing Picker
1—65" Voelker Rotary Cloth Press
1—42" Rice, Barton & Fales, 7-color Prtg. Mach., Dry Cans, etc.
1—43" Rice, Barton & Fales 8 color Prtg. Mach., Dry Cans, etc.
1—54" Textile Mach. Co. 8 color Prtg. Mach. complete with 2—G.E., 35 HP mtrs.
1—52" Waldron 12 color Printing Mach., complete with Westge slip ring, motor, 50 HP.
1—Nash No. 3 Hytor Pump, V-belt motor driven 3/60/220 v. with 60-brass vacuum tube
1—66" Johnson 5 cyl. Slasher
1—90" Butterworth Clip Tenter 50" mtr. dr.
4—156 sp. Saco-Lowell 7x3½ Speeders
6—184 sp. Saco-Lowell 7x2 Speeders
71—256 sp. Fales & Jenks 2¾" and 3" gge Spinners. Texrope drive
1—Pair of 60" Squeeze Rolls
10—96 Spindle Draper 4" Ring, 5" Gage, Tape Drive Twisters, M.D.
2—28 Sp. F&J Novelty Twisters with mtrs.
10—96 Sp. Draper 4" Ring, 5" Gauge Twisters, tape drive, motor driven
1—108 Sp. Saco Lowell 4½" Ring High Speed 5½" Gauge Twister, 7-ply tape drive, belt driven
2—120 Sp. H & B 4" Ring 5" Gauge Twisters 4-ply band drive, belt driven
1—132 Sp. Saco Lowell, high speed 3½" Ring, 4½ Gauge Twister, 7-ply tape drive, 3-phase 3/60/220 v., motor (1924)
1—132 Sp. Saco Lowell 3½" Eadie Rings 4½" Gauge Twister, 9-ply tape drive 3/60/220 v. motor (1924)
150—128 Sp. Fletcher Dble Deck Upstroke Twisters, 7" Sp. spacing equp. with 2-3 HP mtrs.
8—192 spindle Whitin Wet Twisters 2¾ gge.
14—Collins Double Feed Roll Novelty Yarn Twisters: 7—160 sp.; 6—180 sp.; 1—192 sp.
1—48" C. G. Sargent Wool Washer Feed
1—50" P & W Winding & Measuring Machine
1—80 Sp. Foster Model 12 tube Winders with Drive Shaft Motor

EXTRA: Special Liquidation—Complete knitting mill and/or machinery and buildings, including: 8 S. & W. Latch Needle Automatic Cuff & Swiss Rib —and 12 Plain Latch-Knitters; 13 Wildman Automatic Latch Needle—and 20 Spring Needle-knitters; 23 Cooper Spring Needle Knitters; also cylinders and dials and miscellaneous knitting equipment. Write airmail for specifications.

MACHINERY LIQUIDATING CO., INC.

31-33 West 42nd St., New York, N. Y. MLC TELEPHONE: PEnnsylvania 6-8014

DOMESTIC AND EXPORT • CABLE ADDRESS "LIQUIDATE" NEW YORK
OVER 16 YEARS IN TEXTILE MILL MACHINERY • INSPECTORS . . . APPRAISERS . . . LIQUIDATORS

Quality Used Mill Machinery for Cotton, Silk, Rayon, Wool. Bleaching – Dyeing – Finishing

FOR IMMEDIATE DELIVERY

SEWING MACHINES

10—Wilcox & Gibbs flatlock machines
1—Wilcox & Gibbs machines
57—Union Special machines
9—Singer Button Hole machines
1—Singer Button Sewing machine
3—Singer Sewing machines
5—Union Button Sewing machines
13—Metropolitan machines
1—Merrow machine
3—Neck Making machines
2—Firshing Facing Cutters
1—Firshing Cambric Cutting machine
1—Stimpson Eyelet

KNITTING MACHINES

5—Scott & Williams, 10 cut—12 feed, 1 each—18", 19", 20"; 2—21"
10—Wildman, 10 cut—12 feed, 1 each—17", 20"; 2 each—18", 21"; 4—19"
23—Nye & Treddick, 10 cut—8 feed, 2 each—12", 16"; 3—13"; 6—14"; 4—15"; 10 cut—12 feed, 1 each—17", 19", 21"; 2—20"
2—17" Cuffing Machines, 8 cut with tuck stitch welt attachment
1—19" Cuffing Machines, 8 cut with tuck stitch welt attachment

We offer this lot of machines as a whole. It is in fair to good condition and can be bought at a very reasonable figure.

FS-151, Textile World
330 West 42 St., New York City

NORMAN M. McDOWELL
ASSOCIATES
342 E. 142 St. ***REBUILT & USED*** **Bronx, N. Y.**
BUY WITH CONFIDENCE

1—**TENTER FRAME,** over and under PIN STYLE with DOUBLE ROW of NEW STAINLESS STEEL PINS, 20' long x 66" wide, having variable speed takeoff rollers, tension bars and steamer complete.
1—**TENTER FRAME,** CLAMP STYLE 60' long x 52" wide with SPRING type DOUBLE ACTING CLIPS, having steam drum batcher takeoff arranged for V-BELT DRIVE.
2—**BALL BEARING D.A. WOOLEN NAPPERS,** 20 roll and 36 roll, 80" and 84" widths. Self oilers complete with FOLDER TAKEOFF.
4—**DOUBLE ACTING COTTON NAPPERS,** 20 roll units, 80" wide, steam drum, self oilers, folder takeoff complete.
1—**D&F Knit-Goods NAPPER** 90" wide, 20 rolls, GEAR DRIVEN, Self oiler, Folder takeoff with turning arms for TUBULAR GOODS.
10—**SHEARS,** Single to 8 Blade units, 40" to 88" widths, WOOLEN and VELVET TYPES, some with LIST SAVING DEVICES.
1—**Calender** 5 roll, 47" face, 3 cotton and husk rolls, 20" diameters, 2 steam rolls, approx. 13" diameters, EQUIPPED with 3 roll MYCOCK EXPANDER, JOHNSON STEAM HEADS, slip belt batcher, iron spools for chasing, friction clutch.
4—**SQUEEZE SETS** 42" to 65" widths, 2 and 3 roll units, screw and lever set for light & heavy duty work.
2—**HYDRO - EXTRACTORS** 42" COPPER TINNED BASKETS, self balancing, safety locks, Vertical Overhead motors.
1—**HYDRO-EXTRACTOR** 48", COPPER TINNED BASKET, self balancing, safety lock, underneath motor driven.
3—**SEMI-DECATURS** 72" width x 36" diameter COPPER CYLINDERS, pumps, motors, blankets complete.
2—**Doublers** for 60" & 66" goods, with 100 yd. clocks.
1—**VACUUM EXTRACTOR** for 60" cloth, 2 BRASS SLOTTED SUCTION PIPES, LENASH HYTOR PUMP, 20 Hp. motor to drive pump, silent chain drive, 1½ Hp. motor to drive machine complete with EXPANDER ROLLER and FOLDER TAKEOFF.

Also DRYERS, BATCHERS, FOLDERS, GRINDERS, and all types of FINISHING EQUIPMENT. We carry a large stock of spare parts, i.e., BRISTLE BRUSHES, ROLLERS, SQUEEZE ROLLS, EXPANDERS in all SIZES and WIDTHS.

Only a few of the many units available. Send for our complete catalog.
LIST YOUR SURPLUS EQUIPMENT WITH US.

FOR SALE

- **Printing Machines**
- **Dry Cans**
- **Calenders**
- **Quetches**
- **Extractors**
- **Tendering Frames**
- **Beamers & Tubers**
- **Doubling & Folding**

Looms—Warpers—Winders—#90 & #50 Universals
Ribbon Machinery & Equipment

A. & M. BLANK CO., INC.
49 STATE STREET **PATERSON, N. J.**
Sherwood 2-1367 **Lambert 3-9523-0275**

JOHN J. McCLOSKEY, Inc.
MANUFACTURERS AND DEALERS
TEXTILE MACHINERY OF ALL TYPES
APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS
NEW AND USED
Philadelphia Office: 140-142 So. Front Street. Factory Warehouse: Collingswood, N. J.

Standard Mill Supply Co.
USED TEXTILE MACHINERY and SUPPLIES
For over 45 years serving domestic and export customers.
1064-90 MAIN ST., PAWTUCKET, R. I. ● 512-14 W. 4TH ST., CHARLOTTE, N. C.

HARRY STEPHENSON
IMPORTER, DEALER AND MANUFACTURER
TEXTILE MACHINERY AND APPLIANCES
NEW AND USED
River Works, Andover, Mass.

Parkhurst 40 in. duplex Burr Picker.
Modern 48 in. Harwood Feed.
Sargent Cone Duster Iron Frame.
Payne Winders & Bobbins.
Tolhurst 40 in. **Extractor.**
TOMPKINS KNITTING TABLES.
EXTRA-CYLINDERS
(Both Spring & Latch Needles)
KNITTING PARTS
BURR-WHEELS
(All makes & Gauges)
Davis & Furber 80 inch NAPPER.
McCreary 4 roll **Steam Calender.**
Bruce Power **Die Cutting Machine.**
Stafford & Holt "TERRYCLOTH" Knitters
Knitting Machines.—All Kinds
SARGENT STOCK DRYER
Geo. E. Smith Textile Machinery Co.
P. O. BOX 46 COHOES, N. Y.

GAINES TEXTILE MACHINERY CO.
Dealers in Rebuilt and Guaranteed
Yarn Winding and Spinning Machinery
141-45 West 17th Street **New York, N. Y.**

HOSIERY EQUIPMENT
USED OR REBUILT
Knitters: Ribbers: Loopers:
Seamers: Boarding: Dyeing
Full Fashioned Hosiery Machines
Special attention to export trade
C. M. FRENCH
Commercial Trust Bldg., 15th & Market St.
Cable: Frenchtex-Philadelphia Philadelphia, Pa.

FOR SALE
100 *M* 8" Wool Filling Bobbins.
Price and samples on request.

FS-150, Textile World
330 West 42nd St., New York City

THE MEDAL OF HONOR

Sometimes called the Congressional Medal. Established in 1861 by vote of Congress. Presented by the President in the name of Congress. May be given to any officer or enlisted man of the Army; but only for an act of extreme heroism on the field of battle, performed at the risk of life, and above and beyond the call of duty.

NUMBER TWO OF A SERIES

Symbols of Distinguished Service..

THE Service rendered by "Consolidated" goes "above and beyond" just buying and selling equipment. For a quarter century, American industry has looked to our Staff for unusual cooperation in meeting emergencies . . . confident in our wide contacts and ability to meet their demands . . . confident in our experience in selecting equipment. Never before has "Consolidated" been called upon to shoulder greater responsibilities than in this crucial moment of our Nation's history. We are proud that our 25 years of Service in peace have so well prepared us to play our part in this supreme war effort.

FOR 25 YEARS — A SYMBOL OF CONFIDENCE

- **The Textile Industry has confidence in this symbol**— Whether you want to buy or sell a single item or a complete plan — or LIQUIDATE a plant wholly or in part — depend upon "Consolidated" for prompt and satisfactory *Service.*

NEW–Another "Consolidated" LIQUIDATION

MODERN RAYON DYEING AND FINISHING PLANT

Located in Paterson, N. J.

Curtailing Operations due to Business Conditions

We offer for IMMEDIATE DELIVERY the following excellent equipment

PRINTING MACHINES
2—Rice, Barton & Fales 10-Color 64" complete.
4—Rice, Barton & Fales 8-Color 64", 42", 40" comp. Print Machine accessories including color pans, mandrels, star gears, furnisher gears, bearings, etc.

CALENDARS
1—Perkins 3 roll hydraulic Calendar.
2—Van Vlaanderen Ball Bearing Calendars, 50" face.
2—Morrison Ball Bearing Calendars, 50" & 60" face.
1—Morrison 3-Roll 64" Ball Bearing Calendar.

PALMER QUETCHES
2—Morrison & Van Vlaanderen 60" Palmer Quetch Units ball bearing.

AGER
1—Cast Iron Vat Ager, 4'-9" wide, 7'-6" high, 18' long.

STEAMERS
2—Steamers, 8" dia., x 20" long.
1—Devine Steam Jacketed Steamer, 5' dia., x 11' long.

KETTLES
1—Textile 200-Gallon Copper Jacketed Tilting Agitated
2—Textile 100-Gallon Copper Steam Jcktd. Tilt. Agit.
2—Textile 70-Gallon Copper Steam Jcktd. Tilt. Agit.
3—Textile Copper Steam Jacketed Tilting Agitated Kettles, 50, 40 & 30 gallons.

LOOP AND NET DRYERS
3—National Loop Dryers, 28', 33' and 65" long.
2—Proctor & Schwartz Airlay Dryers.
1—Van Vlaanderen 66" 7-Tier Net Dryer, fin heaters.

PRINT PADDER
1—3-Roll Print Padder, consisting of Drying Tower with Unit Heater.

3200 Standard W-Bore Copper Print Rollers With Designs, 28" to 48" in length, 14" to 20" in circumference.

COLLOID MILLS
1—Charlotte Homogenizer or Colloid Mill.
1—10" Premier Colloid Mill.

DYE JIGGS
1—Battery of 4—Butterworth Stainless Steel Lined Dye Jiggs, 45" face.
4—Lincoln 50" Dye Jiggs.

TENTER FRAMES
2—Winsor & Jerauld 50' Frames, with Morrison stainless steel clips.

CAN DRYERS
22 Sets—Copper Can Dryers in sets of 6, 7, 8, 10, 22, 23, and 25. Diameters—23", 30", 60" & 72". Widths—44", 48", 50", 45", 90", 100" and 108".

SCOURING & DYEING MACHINES
1—Sargeant 3-Bowl Skein Scouring Machine.
10—Klauder Weldon Skein Dyeing Machines 20, 28, 30 sticks, Hoist type.
1—Obermeier Package Dyeing Machine.

FULLING MILLS
6—Rodney-Hunt Fulling Mills, Gear Drive.

DOUBLERS
1—Parks & Woolson 66" Doubling, Reeling and Measuring Machine.

FLAT FOLDERS
4—Elliot & Hall Flat Folders, 42" to 60" wide.

OPEN WASHERS
1—Continuous Full Width Washer, consisting of 10 sections, 4 nips each section, 66" face rolls.
3—Rodney Hunt Full Width Washers, 66" x 12" rubber squeeze rolls.
1—60" Continuous Boil-Off Machine, steel tanks.

2—Palmer Quetch Units, Morrison and Van Vlaanderen, 60" and 66".

4—Calendars, ball bearing, Morrison and Van Vlaanderen, 50" and 64" face.

2—50" Windsor & Jerauld TENTER FRAME, 54" wide, one 44", stainless steel clips.

1—48" Van Vlaanderen Centrifugal Hydro EXTRACTOR, 48" dia. x 18" deep. Copper basket.

2—55" Van Vlaanderen Beamers, General Electric Co. motors.

1—66" Parks & Woolson CLOTH DOUBLING & BOARDING MACHINE, Springfield type.

4—Elliot & Hall FLATFOLDERS, 42", 48", 54" and 60".

1—50" Morrison BUTTON BREAKER.

1—66" Van Vlaanderen SEVEN TIERS 33 FOOT DRYER. Cork covered rods. Aerofin heaters, motor driven fans.

2—50" Werner Silk RUBBING MACHINES, 41½" and 43" face.

1—60" Continuous Boil-Off Machine consisting of one steel tank 72" wide x 35' long, 30" deep, stainless steel Reels and Conveyors. Suitable for setting Romaines, Alpacas, Magic Hours, Master Piece and similar plied yarns.

29—Dye Becks, Morrison, Van Vlaanderen and General, 21" to 6 ft., stainless steel and wood boxes.

ROPE SOAPERS
2—Rodney Hunt 10' Rope Soapers.

SHEARS
3—Parks & Woolson Double Blade Shear, 66", with list saving device.
1—Parks & Woolson 3-Blade Shear, 60½" with list saving device.

BLEACH HOUSE
2—Bleach House Jay Pilers.
10—Bleaching 4-5 Ton Kiers, Vomit Type.
1—5-Ton Kier, Circulating Type, with external heater, pump and motor.
2—Lincoln Double Roll Chemical Squeeze Rolls.
2—Arlington Rope Squeezers with clutch pulley drive.

BEAMERS—BATCHERS
2—Van Vlaanderen 55" Beamers.

VACUUM PUMPS
1—Conersville Root Blower, 16 x 16, capacity 1500 Cpm.
2—#3 and #4 Nash Hytor Vacuum Pumps.
Misc!: Scuthers, Expanders, Generator Sets, Air Receivers, Sewing Machines, rubber lined Tanks, Modine Heaters, Motors, Exhaust Fans, Pleaters, Mandrils, Doctor Blades, Gears, Lathes, Accumulators, etc.

DECATERS
2—David-Gessner & Parks & Woolson 72" and 48" wide, complete with Nash Pumps.
5—Nappers.

RUBBING MACHINES
2—Werner 50" Rubbing Machines.

DYE BECKS
29—Dye Becks, Morrison, Van Vlaanderen & General, 3' to 8', stainless steel and wood boxes.

EXTRACTORS
2—Van Vlaanderen 60" Rubber Lined Basket Extractors.
1—50" Copper Basket Extractor, under driven Centrifugal machine, complete.
10—48" Extractors, Burkhardt, Van Vlaanderen, Fletcher, Tolhurst, and Haring & Stephen; copper and rubber lined baskets.
2—Tolhurst 44" Extractors, Copper Lined Baskets.
1—King & Gerber 42" Extractor, copper basket, self-balancing type.
10—Self balancing Extractor, Tolhurst, American, Laundry, Adams and Troy, copper lined basket, 40", 32", 28", 26" and 20".

WORSTED SPINNING FRAMES
25—Ring Spinning Frames, 160 spindle each, 3½" pitch, 8" traverse, 1¾" ring, 4" front roll.

BUTTON BREAKERS
2—Textile & Van Vlaanderen Button Breakers, 60" & 72", brass rolls.

PADDERS, MANGLES, QUETCHES
4—Textile 50" 2-Roll Dye Padders.
7—Butterworth and Textile 50" 2-Roll Starch Mangles.
2—Textile 80" 2-Roll Mangles.
8—Butterworth and Morrison 2 and 3-Roll Quetches, 50", 60" and 72" in width.

MERCERIZING RANGE
1—Complete Mercerizing Range.

WATER SOFTENERS
1—Permutit Water Softener, 103" high, 63" wide across center, clean out 13" x 17".
2—10 x 10 Vertical Softeners Zeolite piping, valves, meters and fittings.
2—Pressure Sand Filters 7' dia. x 18' long, complete with pipe connections, valves and fittings.

SINGEING MACHINE
1—80" two-burner Singeing Machine.

Remember we buy single items or complete plants. BUY WITH CONFIDENCE

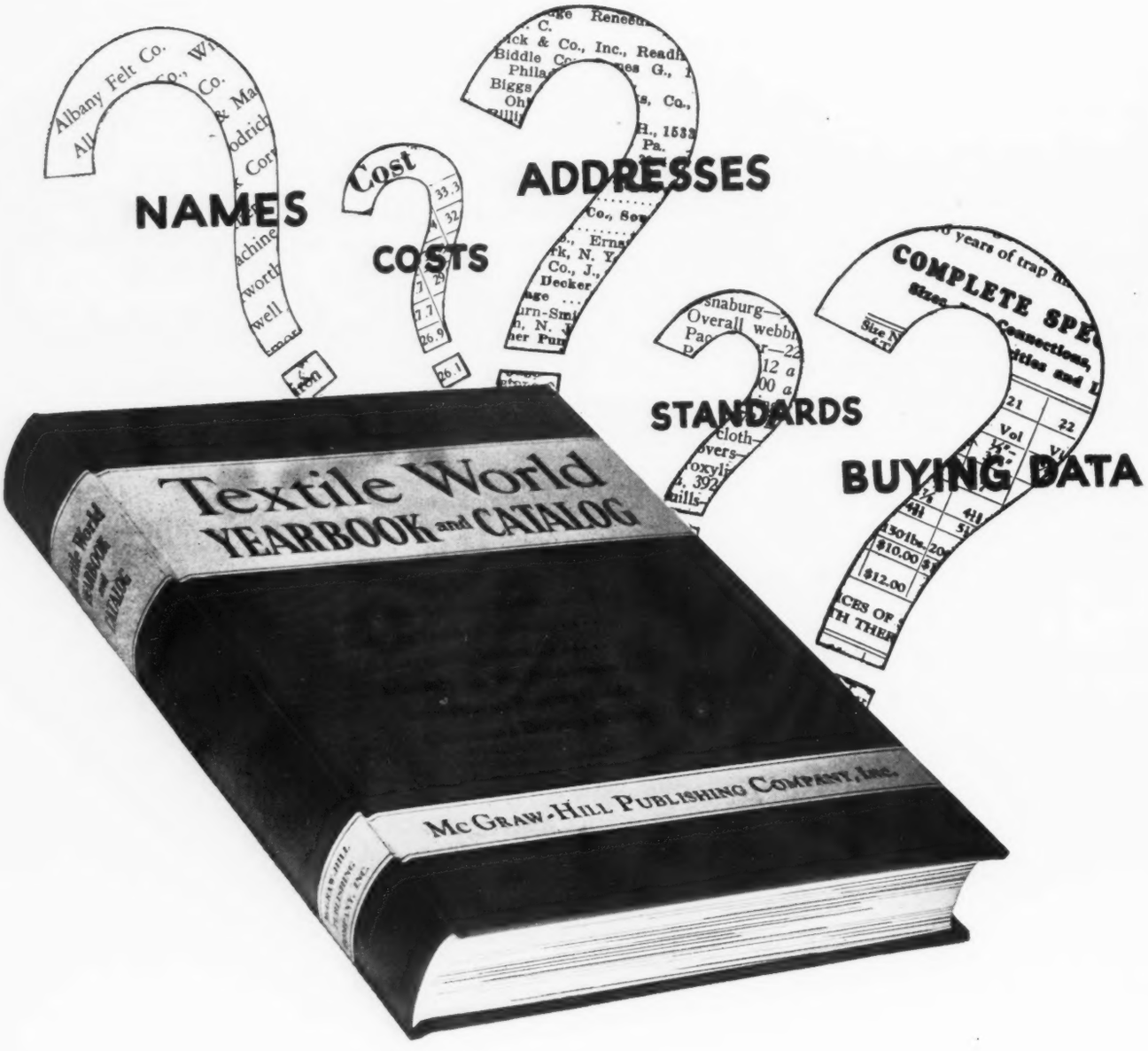
FOR 25 YEARS — A SYMBOL OF CONFIDENCE

CONSOLIDATED PRODUCTS CO., Inc.

NEW YORK CITY, 15 Park Row — Tel. BArclay 7-0600
Address Inquiries to TEXTILE DIVISION, PATERSON, N. J., 5th Ave. & McClean Blvd. — Cable Address: Equipment, N. Y. — Tel. ARmory 4-6540

Supplying Equipment for: PROCESS • TEXTILE • MINING • FOOD • CHEMICAL • PLASTICS • CEMENT • PAINT • ROCK PRODUCT • RUBBER

ANSWERS - - - *at your elbow!*



Whatever your buying problem—whatever your mill operating, production, or technical problem, look it up first in the Textile World Yearbook and Catalog, the "looking up place" of the textile industry.

"The Yearbook with the Orange Bands"

RALPH E. LOPER CO.

INDUSTRIAL ENGINEERS

GREENVILLE, S. C. FALL RIVER, MASS.

■ ■ ■ ■

SPECIALIZING IN TEXTILE COSTS AND OPERATING METHODS FOR MORE THAN A QUARTER OF A CENTURY

COST SYSTEMS
WORK LOAD STUDIES
PAY ROLL CONTROLS
COST REDUCTION SURVEYS
SPECIAL REPORTS

WE'VE LEARNED A LOT IN OUR 50 YEARS!

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes. *Catalog on request.*

W. E. CALDWELL CO.
Incorporated
2060 Brook St. Louisville, Ky.

Caldwell TANKS TOWERS

IMPORTANT

When You Change Your Address

Unlike first-class mail, periodicals are not forwarded to a new address unless the subscriber pays additional postage.
You can avoid this annoyance—and receive your copies of TEXTILE WORLD promptly upon publication, by advising us of any change of address at your earliest convenience.

Name .....

New Home Address.....

City & State.....

Present Position .....

Company .....

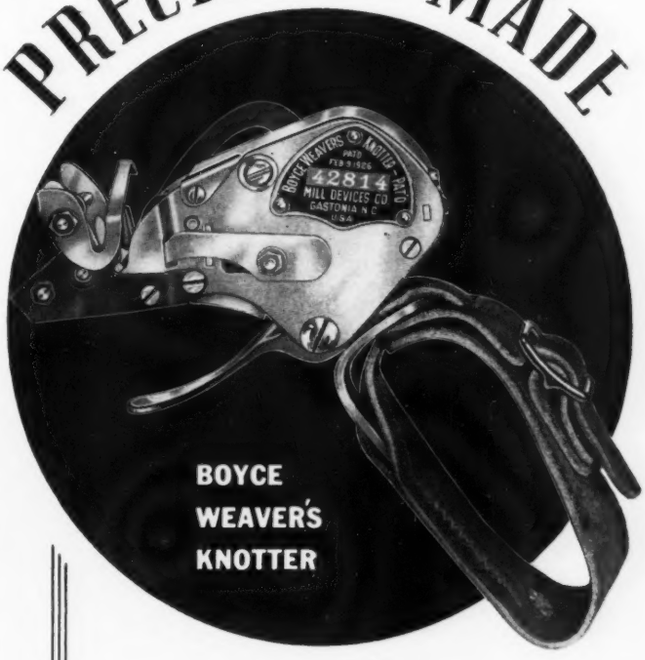
* * *

Old Address .....

City and State.....

TEXTILE WORLD
330 West 42 Street New York, N. Y.

PRECISION MADE



BOYCE WEAVER'S KNOTTER

for Production SPEED

Precision made—in the Boyce Weaver's Knotter means a long, useful life in spite of the terrific beating today's production schedules are giving to most equipment.

Precision made—means trouble-free operation . . . a joy to the operator.

Precision made—means interchangeable repair parts (if ordered through Mill Devices)... all of which adds up to real economy in the long run.

MILL DEVICES COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA, N. C.

SALES REPRESENTATIVES

R. D. HUGHES SALES CO., 2106 S. LAMAR STREET, DALLAS, TEXAS
Eastern (Including Canada) C. E. HERRICK, 44 FRANKLIN STREET, PROVIDENCE, RHODE ISLAND
European: MELLOR, BROMLEY & CO., LTD., LEICESTER, ENGLAND
Mexico: LEO LENK, APARTADO NO. 533, MEXICO CITY, D. F.

Teeth Ground This Way Save Gnashing Yours

Here's another reason why Wissco Card Clothing saves wear on *your* teeth, and furrows on *your* brow.

Wissco staples are ground *sharp*, and *absolutely* uniform.

To get these perfect points, the teeth are ground on most modern equipment. We ourselves machine and set our own grinding cylinders —to get them the way they *should* be.

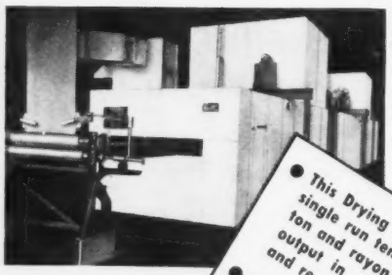
Then experts who have spent long years acquiring their skill control the grinding with meticulous care.

If for your war production you want card clothing not made to a price, but to a *low cost per* year, send us a trial order. Then *you* decide for yourself. Write Wickwire Spencer Steel Company, 500 Fifth Ave., New York City—or Buffalo, Worcester, Chicago, San Francisco.

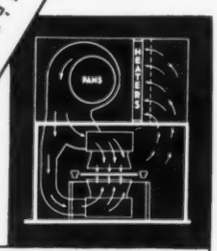
WICKWIRE SPENCER
CARD CLOTHING
WISSCO PRODUCTS

PROCTOR

Super-Speed
DRYING SYSTEM
As Applied To Single Run Tenters



- This Drying System, when applied to single run tentering machines for cotton and rayon piece goods, increases output in the finishing department and results in great economy.
- Flexibility of System permits control over drying speeds and conditions for a wide variety of fabrics and finishes.
- Air at high temperatures is impinged against both sides of the fabrics and speeds as high as 170 yards a minute are being obtained in an 80-foot long tenter.
- In addition to high production, this System offers the benefits of uniformly maintaining high quality results and reducing maintenance, power, and steam costs.
- The Proctor Super-Speed System is rigidly and substantially constructed throughout and efficiently insulated against heat loss by special paneling.



PROCTOR & SCHWARTZ · INC · PHILADELPHIA

The SEPTEMBER
Issue of
TEXTILE WORLD
will be the

18th ANNUAL RAYON YEAR BOOK NUMBER

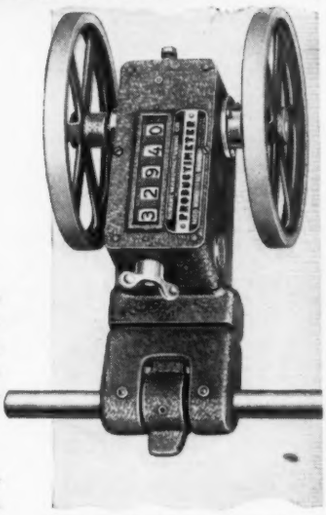
●

Advertiser's Note:— None too soon to start preparation of Special Copy . . . Right?

PRODUCTIMETERS

in your Victory

Production Program



Model "T" Lineal Measuring Units, record in feet or yards.

With the ever heavier demands made upon it, producing for armed and civilian needs, the Textile Industry will welcome Productimeters as partners for providing reliable records of production control and inventories, eliminating waste, saving priceless man-hours.

• • •

Productimeters are accurate, rugged, high-speed industrial counters . . . there's a type for practically every textile requirement: Loom Pick, Yardage, Pre-determined and many rotary models for application to drive shafts . . . and as an additional service, they keep guard continually on mechanical equipment to detect symptoms of let-down in speed.

WRITE FOR COMPLETE DETAILS!

DURANT MANUFACTURING CO.

1931 N. Buffum Street, Milwaukee, Wis.
179 Eddy Street, Providence, R. I.

DAVIS AND FURBER

Earn a Manufacturing Profit By Using the Best Machinery and Supplies

DUSTERS
PICKERS
CARDS
MULES
WOOLEN SPINNING FRAMES
SPOOLERS
DRESSING FRAMES
NAPPERS
CARD CLOTHING
NAPPER CLOTHING
GARNETT WIRE
LEATHER RUBB APRONS
LEATHER CONDENSER TAPES

DAVIS & FURBER
NORTH ANDOVER, MASS.

THE ACCEPTED STANDARD

AT PIEDMONT SHIRT CO., TOO —NORTHERN HARD Maple

New plant of the Piedmont Shirt Co., Greenville, S. C.—floored with **MFMA** *Northern Hard Maple.*

"Takes on a Smoother Appearance with use"

says

H. S. ABRAMS, Supt.

"Since flooring our building (the home of nationally-advertised Wings Shirts) we wish to express our deepest satisfaction with the Northern Maple stock which we used," says Mr. H. S. Abrams. . . . "We have noticed from month to month that the flooring takes on a better and smoother appearance with use. We are particularly pleased with the hardness of the floor and the fact that there is no possible chance of it splintering. This was a constant source of trouble to us in our old building."

In mills everywhere, Hard Maple's daily satisfaction and eventual economy have been proved through the years. When you build, remodel, or re-floor, don't fail to investigate **MFMA** (trademarked, guaranteed) Northern Hard Maple. *Ask your architect.*

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1793 McCormick Building, Chicago, Illinois

Write for folder on heavy-duty finishes for old or new Maple floors, which further reduce cleaning costs. See Sweet's, Sec. 11/82.

Floor *with* **MFMA** Maple
REG. U. S. PAT. OFF.
(NORTHERN HARD)

INDEX TO ADVERTISERS

An * indicates data will be found in 1941 Textile World Yearbook and Catalog

	Page
Abbott Machine Co.	123
Aberfoyle Mfg. Co.	129
*Abington Textile Machy. Wks.	112
Acme Knitting Machine & Needle Co.	165
Albi Chemical Co.	122
*Allis-Chalmers Mfg. Co.	5
Aluminum Co. of America	146
American Air Filter Co., Inc.	157
American Blower Corp.	15
American Chain & Cable Co., Inc. Wright Mfg. Division	154
American Cyanamid & Chemical Corp.	43
American Industries Salvage Committee	34, 35
American Rolling Mill Co., The	36
American Viscose Corp.	14
American Woolen Co.	164
American Yarn & Processing Co.	27
Aralac, Inc.	22
Arlington Mills	144
*Armstrong Cork Co.	21
Atlas Electric Devices Co.	128
Bahnson Co., The	142
Bailey, Frank	144
*Barber-Colman Co.	139
Barnes Co., Henry K.	142
Bischoff Co., Inc., Ernst	167
*Blickman, Inc., S.	132
*Booth Co., Benjamin	156
Borne Scrymser Co.	168
*Boston Woven Hose & Rubber Co.	37
Breuer Electric Mfg. Co.	160
Brinton Co.	165
*Butterworth & Sons Co., H. W.	111
Caldwell Co., W. E.	177
Carbomatic Corp.	156
Carrier Corp.	13
*Carter Traveler Co., Div. of A. B. Carter, Inc.	177
Celotex Corp., The	150
Ciba Co., Inc.	7
Clinton Company	107
Clutsom Machines, Inc.	116
Colgate-Palmolive-Peet Co.	119
Collins & Aikman Corp.	161
Commonwealth Color & Chem. Co.	169
Cooper Co., Chas.	162
Cornelius Products Co.	169
Crabb & Son, Wm.	125
*Crane Mfg. Co.	162
*Curtis & Marble Machine Co.	134
Dana Warp Mills	160
Darnell Corp., Ltd.	118
*Dary Ring Traveler Co., The	152
*Davis & Furber Machine Co.	179
Dayton Rubber Mfg. Co.	23
Devoe & Raynolds Co., Inc.	109
Diamond Alkali Co. Standard Silicate Div.	166
*Dinsmore Mfg. Co.	162
Dodenhoff Co., W. D.	132
*Dommerich & Co., L. F.	18
Dow Chemical Co., The	143
Draper Co., J. O.	169
*Draper Corporation	3
Durant Mfg. Co.	179
Eastern Commercial Travelers Ass'n.	142
*Economy Baler Co.	170
Fafnir Bearing Co., The	95
Fairbanks, Morse & Co.	115
Falls Yarn Mills	161
*Fidelity Machine Co.	138
Fleur-O-Lier Manufacturers	28
Formica Insulating Co., The	135
*Foster Machine Co.	26
Foxboro Co., The	38
*Gardinol Corp.	145
Gates Rubber Co., The	151
General Dyestuff Corp.	29
Globe Dye Works	166
*Graver Tank & Mfg. Co., Inc.	110
Gulf Oil Corp.	42
*H & B American Machine Co.	131
*Hart Products Corp.	117
Heineman Corp., Oscar	161
Henry, Andrew K.	161
Houghton & Co., E. F.	141
*Hungerford & Terry, Inc.	126
*Hunter Machine Co., James	121
Industrial Rayon Corp., Inside Front Cover	
*Ives Co., L. T.	164
Johnson & Son, Inc., S. C.	108, 130
Johnson Machine Wks., Chas. B.	30
*Kenyon & Son, D. R.	168
Lane & Bros., Inc., W. T.	170
Lewellen Mfg. Co.	154
Litchfield Shuttle Co.	127
Loper Co., Ralph E.	177
Lukenheimer Co., The	149
Maple Flooring Mfgrs. Assoc.	179
Merrow Machine Co., The	164
*Mill Devices Co., Div. of A. B. Carter, Inc.	177
Miller Co., The	32
Monomac Spinning Co.	144
*Monsanto Chemical Co.	33
Montgomery Co.	144
*Murdock & Geb Co.	160
National Oil Products Co.	31
*National Ring Traveler Co.	160
New England Butt Co.	164
N. Y. & N. J. Lubricant Co.	161
Nonquit Mills	144
*Norma-Hoffmann Bearings Corp.	133
Oakite Products Co.	166
Pabst Sales Co.	120
Parks-Cramer Co.	114
Penick & Ford, Ltd.	169
Pennsylvania Salt Mfg. Co.	137
Pequot Mills	152
*Perkins & Sons, Inc., B. F.	155
Pittsburgh Corning Corp.	147
*Proctor & Schwartz, Inc.	178
Red-Ray Mfg. Co.	136
*Reliance Electric & Eng'g Co.	12
Republic Steel Corp.	41
*Rhoads & Sons, J. E.	47
R. I. Humidifier & Vent Co.	130
Rhode Island School of Design	161
Rines, J. H.	168
*Rohm & Haas Co., Inc.	93
Rome Soap & Mfg. Co.	168
Royce Chemical Co.	44
Ryerson & Son, Inc., Joseph T.	140
*Saco-Lowell Shops	8, 9
*Scholler Bros., Inc.	167
*Scott Co., H. L.	140
Shell Oil Co., Inc.	153
Sinclair Refining Co. (Inc.)	113
Sirrine & Co., J. E.	140
Socony-Vacuum Oil Co., Inc.	16, 17
*Solvay Sales Corp.	124
*Sonoco Products Co.	91
Staley Mfg. Co., A. E.	152
Standard-Coosa-Thatcher Co. Inside Back Cover	
Standard Pressed Steel Co.	148
*Standard Soap Co. of Camden	138
Sterling Ring Traveler Co.	156
*Sturtevant Co., B. F.	24, 25
*Terrell Machine Co., Inc., The	128
Texas Co.	48
Textile Machine Works	39, 40
*Thomas & Skinner Steel Products Co.	134
Tompkins Bros. Co.	165
*Torrington Co., The	19, 20
*U. S. Ring Traveler Co.	10, 11
*Universal Winding Co.	96
Wallerstein Co., Inc.	167
Warwick Chemical Co.	Back Cover
Wayne Mfg. Co.	170
*Whitin Machine Works	4
*Whitinsville Spinning Ring Co.	160
Whitman Co., Inc., William	144
Wickwire Spencer Steel Co.	178
Wildman Mfg. Co.	163
Wolstenholme Sons & Co., Inc., Thos.	160
Wright Mfg. Division, American Chain & Cable Co., Inc.	154

■ ■ ■

PROFESSIONAL SERVICES

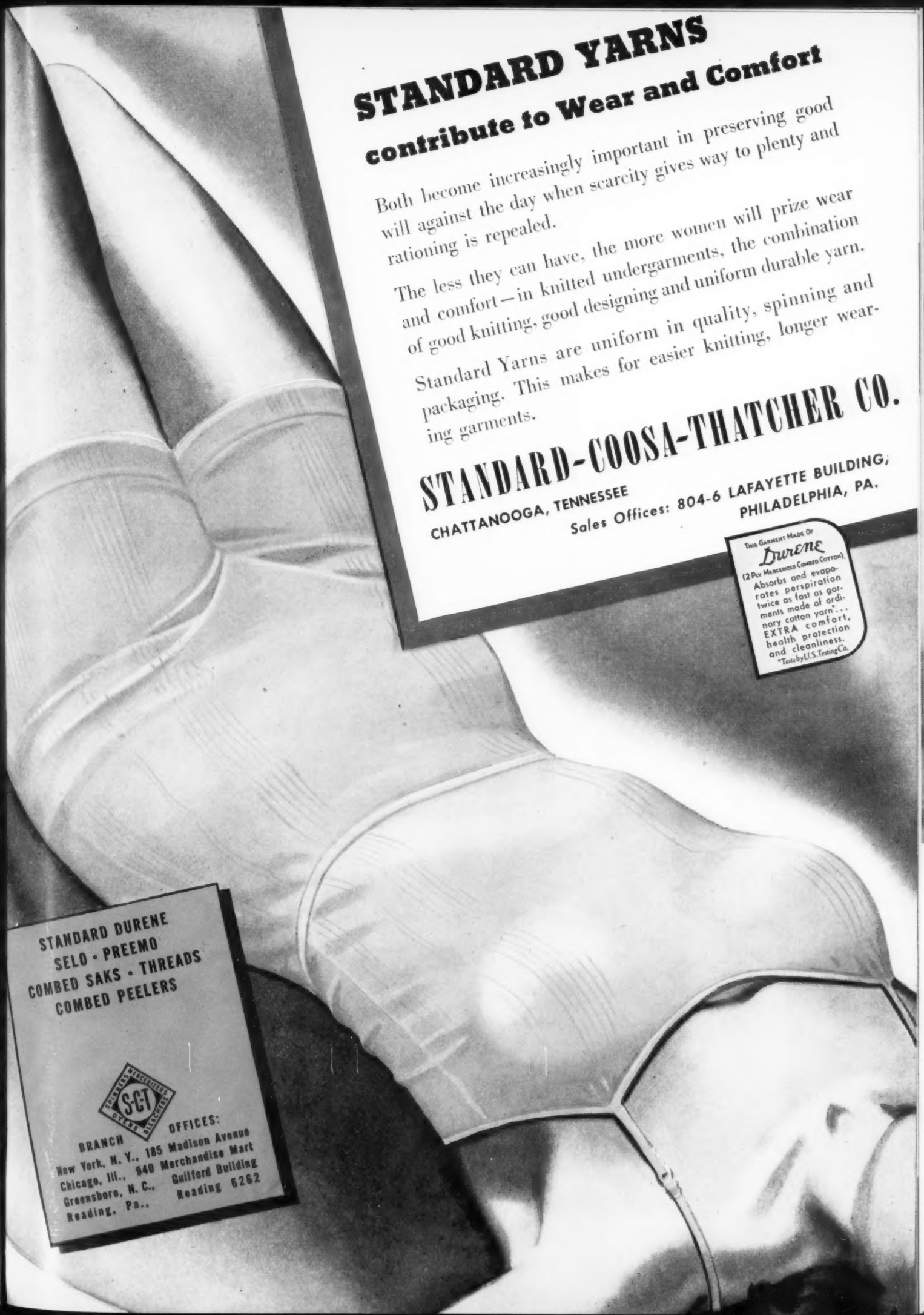
Lancaster Allwine & Rommel	171
Loper Co., Ralph E.	177
Sirrine & Co., J. E.	140

■ ■ ■

SEARCHLIGHT SECTION

Classified Advertising

BUSINESS OPPORTUNITIES	171
EMPLOYMENT SERVICE	
Raymond Service, Inc., Charles P.	171
POSITIONS VACANT	171
POSITIONS WANTED	171
WANTED TO PURCHASE	171
USED AND SURPLUS EQUIPMENT	171-175
Batey, Thomas E.	172
Bay State Textile Co.	172
Blank Co., Inc., A. & M.	174
Consolidated Products Co., Inc.	175
Counter Exchange	172
French, C. M.	174
Fyans, A. F.	172
Gaines Textile Mchy. Co.	174
Guion, H. P.	171
Hudson River Woolen Mills	171
Lincoln, Jr., H. B.	171
Machinery Liquidating Co., Inc.	173
McCloskey, Inc., John J.	174
McDowell, Norman M.	174
Republic Textile Equipment Co., Inc.	172
Schuster, P.	171
Smith Textile Mchy. Co., Geo. E.	174
Solomon & Co., Inc., Robert	171
Standard Mill Supply Co.	174
Stanhope, Russel	171
Stephenson, Harry	174
Textile Auxiliaries	172
Textile Mills	171
Wheeler Co., Frank W.	172
Wrightson, John	172


STANDARD YARNS
contribute to Wear and Comfort
Both become increasingly important in preserving good will against the day when scarcity gives way to plenty and rationing is repealed.
The less they can have, the more women will prize wear and comfort—in knitted undergarments, the combination of good knitting, good designing and uniform durable yarn.
Standard Yarns are uniform in quality, spinning and packaging. This makes for easier knitting, longer wearing garments.
STANDARD-COOSA-THATCHER CO.
CHATTANOOGA, TENNESSEE
Sales Offices: 804-6 LAFAYETTE BUILDING, PHILADELPHIA, PA.
This Garment Made Of
Durene
(2 Ply Mercerized Combed Cotton).
Absorbs and evaporates perspiration twice as fast as garments made of ordinary cotton yarn*... EXTRA comfort, health protection and cleanliness.
*Tests by U.S. Testing Co.
STANDARD DURENE
SELO • PREEMO
COMBED SAKS • THREADS
COMBED PEELERS
S-C-T
BRANCH OFFICES:
New York, N. Y., 185 Madison Avenue
Chicago, Ill., 940 Merchandise Mart
Greensboro, N. C., Guilford Building
Reading, Pa., Reading 6262

Unity

"I say that Hitler cannot and will not split this great American production team. I say that we will pull together – not apart."

– Donald Nelson

Warwick Chemical Company

WEST WARWICK, R. I. • ROCK HILL, S. C.

580 FIFTH AVE., NEW YORK, N. Y.

Sculpture by Enzo Baccante
Courtesy of Barbizon Plaza Art Gallery